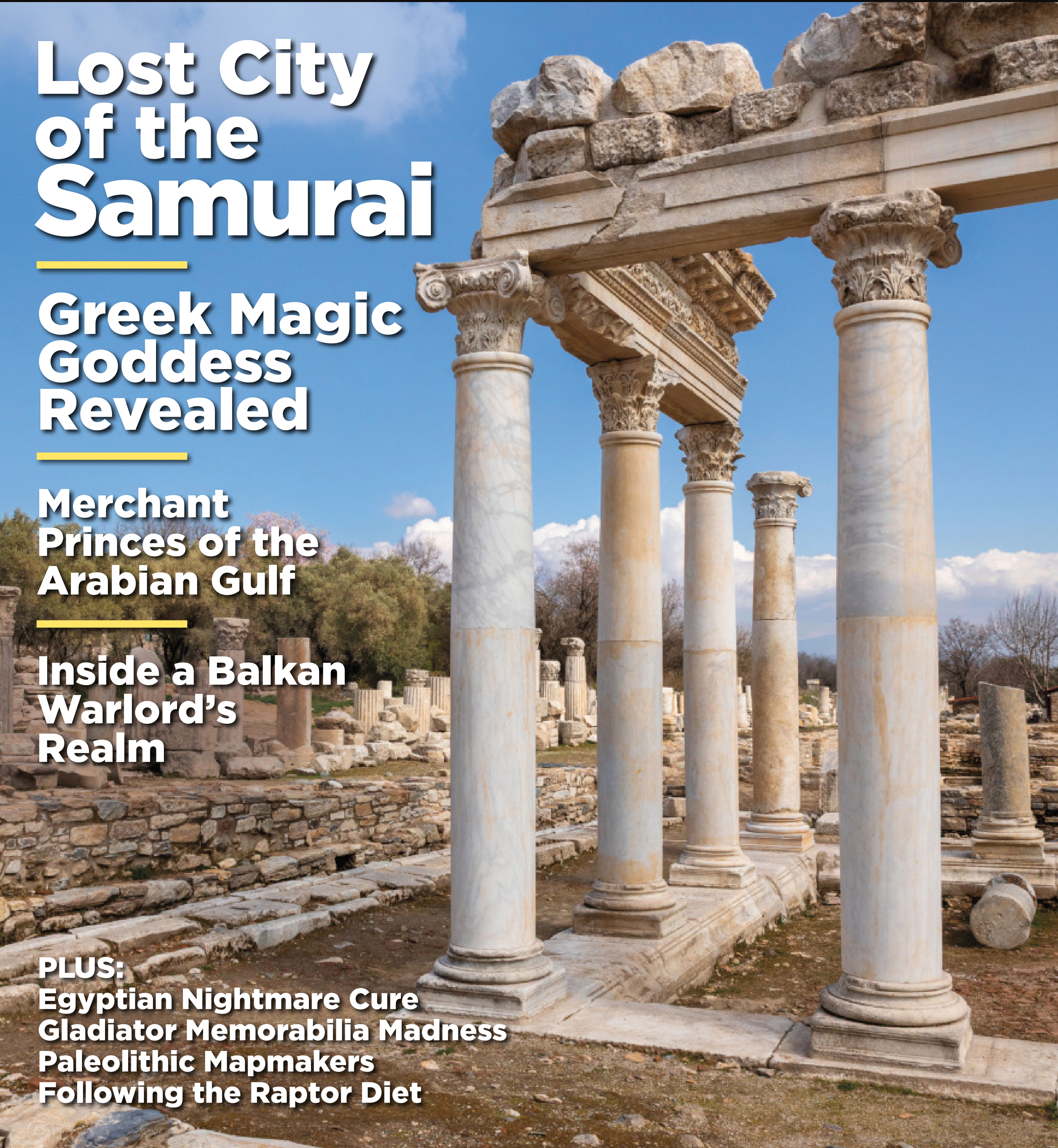
Exploring the World of Ancient Fruit

ARCHAEOLOGY

archaeology.org
A publication of the Archaeological Institute of America
May/June 2025



Lost City of the Samurai

Greek Magic Goddess Revealed

Merchant Princes of the Arabian Gulf

Inside a Balkan Warlord's Realm

PLUS:
Egyptian Nightmare Cure
Gladiator Memorabilia Madness
Paleolithic Mapmakers
Following the Raptor Diet

FAR HORIZONS

ARCHAEOLOGICAL AND CULTURAL TRIPS

PhD-LEADERS: Your Scholar Is Your Travel Companion

We place scholars at the heart of each journey, accompanying you throughout your trip. Our experts transform passive tourism into immersive intellectual adventures, offering insights into ancient civilizations through narratives shared over meals, during site explorations, and in evening discussions.

EXCLUSIVE ACCESS: Venture Beyond the Velvet Ropes

We negotiate entry to restricted archaeological sites, private artifact collections, and untold cultural stories, creating experiences that transcend traditional tourism and reveal hidden historical wonders.

TRANSFORMATIVE TRAVEL: Artifacts to Epiphanies

We believe the most meaningful souvenirs are invisible. Our expertly guided explorations of ancient sites catalyze deeper understandings of human ingenuity and cultural complexity, creating moments of clarity that forever change how you see past civilizations and contemporary society.

KINDRED COMMUNITY: Small Groups, Lasting Bonds

We foster intimate interactions where archaeological passion creates unexpected connections. Through shared discoveries at remote ruins, animated discussions over local cuisine, and collective moments of wonder, our travelers forge friendships that extend far beyond the journey's end.

BESPOKE JOURNEYS: Crafted, Never Common

We architect each trip as a masterwork of scholarly travel, balancing intellectual depth with comfort and discovery. Our itineraries reflect research, planning, and refinement to ensure every moment offers something meaningful for the curious mind that standard tours simply cannot deliver.

LEGACY OF EXCELLENCE: Countless Returning Travelers

Our 40+ years of archaeological exploration and support for preservation have fostered a deeply personal relationship with our guests, resulting in an exceptionally high return rate that speaks to our individualized attention, and the lasting connections we create with each member of our archaeological family.

UPCOMING DEPARTURES FOR FALL 2025

USA • Türkiye • Bulgaria • Spain • Tunisia •
Greece • Mexico • India • Japan • Egypt

VISIT OUR WEBSITE FOR 2026 TRIPS

farhorizons.com

CONTENTS

22 Temple of Hecate, Lagina, Turkey

FEATURES

22 GODDESS AT THE CROSSROADS
Why a city put its trust in a Greek deity feared throughout the Mediterranean world
BY DURRIE BOUSCAREN

28 LOST CITY OF THE SAMURAI
Archaeologists rediscover Ichijodani, a formidable stronghold that flourished amid medieval Japan's brutal power struggles
BY JASON URBANUS

36 DESERT PARADISE FOUND
How a tiny, water-rich kingdom came to dominate vital trade routes in the Arabian Gulf 4,000 years ago
BY DANIEL WEISS

42 A PASSION FOR FRUIT
Exploring the surprisingly rich archaeological record of berries, melons...and more
BY THE EDITORS

48 PERU'S TIMELESS THREADS
More than 1,000 years ago, master weavers kept the ancient traditions of the Moche culture alive
BY JARRETT A. LOBELL

Cover: Roman baths, Stratonicea, Turkey
PHOTO: © Tolga İldun

SACRED STONE OF THE SOUTHWEST IS ON THE BRINK OF EXTINCTION

Centuries ago, Persians, Tibetans and Mayans considered turquoise a gemstone of the heavens, believing the striking blue stones were sacred pieces of sky. Today, the rarest and most valuable turquoise is found in the American Southwest–– but the future of the blue beauty is unclear.

On a recent trip to Tucson, we spoke with fourth generation turquoise traders who explained that less than five percent of turquoise mined worldwide can be set into jewelry and only about twenty mines in the Southwest supply gem-quality turquoise. Once a thriving industry, many Southwest mines have run dry and are now closed.

We found a limited supply of turquoise from Arizona and purchased it for our ***Sedona Turquoise Collection***. Inspired by the work of those ancient craftsmen and designed to showcase the exceptional blue stone, each stabilized vibrant cabochon features a unique, one-of-a-kind matrix surrounded in Bali metalwork. You could drop over $1,200 on a turquoise pendant, or you could secure 26 carats of genuine Arizona turquoise for **just $99**.

Your satisfaction is 100% guaranteed. If you aren't completely happy with your purchase, send it back within 30 days for a complete refund of the item price.

The supply of Arizona turquoise is limited, don't miss your chance to own the Southwest's brilliant blue treasure. Call today!

Jewelry Specifications:

• Arizona turquoise • Silver-finished settings

Sedona Turquoise Collection

A. Pendant (26 cts)	~~$299~~*	$99	+s&p	*Save $200*
B. 18" Bali Naga woven sterling silver chain		$149	+s&p	
C. 1 ½" Earrings (10 ctw)	~~$299~~*	$99	+s&p	*Save $200*
Complete Set**	~~$747~~*	$249	+s&p	*Save $498*

***Complete set includes pendant, chain and earrings.*

Call now and mention the offer code to receive your collection.

1-800-333-2045

Offer Code STC961-09

You must use the offer code to get our special price.

Rating of **A+**

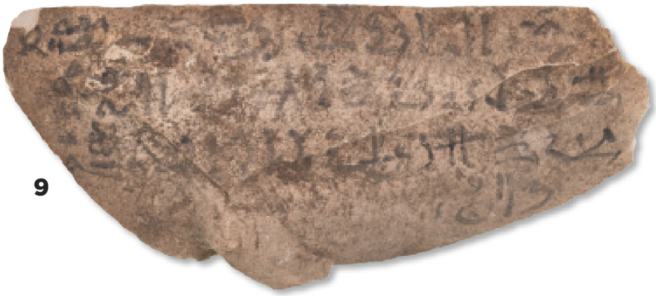
**Special price only for customers using the offer code versus the price on Stauer.com without your offer code.*

Stauer®
14091 Southcross Drive W., Dept. STC961-09,
Burnsville, Minnesota 55337 **www.stauer.com**

26 carats of genuine Arizona turquoise ONLY $99

Necklace enlarged to show luxurious color

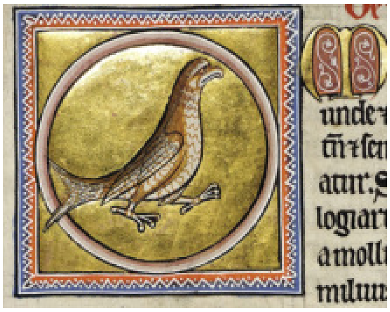
Stauer… *Afford the Extraordinary.*®


9

15

11

12


14

16

DEPARTMENTS

4 EDITOR'S LETTER

6 FROM THE PRESIDENT

8 LETTERS
Porcine prohibition, under tragic circumstances, and a secret shell symbol

9 DIGS & DISCOVERIES
Must-have gladiator merch, Paleolithic cartographers, a Byzantine mosaic's blessing, and brewing for an ancient Brazilian feast

18 OFF THE GRID
Bulow Plantation Ruins, Florida

20 AROUND THE WORLD
Scent of an Egyptian mummy, city beneath the forest, decorating Nero's Golden House, and the future foretold by a spoon

64 ARTIFACT
Etruscan precision engraving

LETTER FROM ALBANIA

53 THE MANY FORTRESSES OF ALI PASHA
How a father and son are documenting the architectural legacy of a renegade nineteenth-century warlord
BY BEN O'DONNELL

ARCHAEOLOGY.ORG

■ MORE FROM THE ISSUE To see more images of the temple at Lagina, go to archaeology.org/hecate. For more images of Albania's Ottoman-era fortresses, go to archaeology.org/alipasha.

■ ARCHAEOLOGICAL NEWS Get daily headlines from around the world and sign up for our e-Update.

■ FOLLOW US

EDITOR'S LETTER

SYMBOLIZING THE PAST

What do a sword, a key, and an avocado have in common? In this issue, you will see how each of these items became a powerful cultural emblem and read about how everything from the color of a woman's teeth to the building of a region-wide system of fortresses can reflect the symbolic lives of people of the past.

Some events are symbolic, such as the modern annual procession of men dressed in samurai armor who wend their way through Japan's Ichijo Valley, recalling the golden age of the Asakura clan and their lost city of Ichijodani. During the celebration, the men carry that most iconic of samurai symbols, the long, curved, razor-sharp sword known as a katana. Over the course of six decades of excavations in medieval Ichijodani, archaeologists have discovered examples of these lethal weapons as well as fragments of the armor worn by those fabled warriors.

An object far more commonplace than a legendary weapon can also hold great symbolic importance. In Anatolia, a key was carried in an annual parade from the temple dedicated to the goddess Hecate in the sanctuary in Lagina to the nearby city of Stratonicea and back. Each year, during these rites, an unmarried woman held a key—perhaps even the one that unlocked the doors to the temple—as a symbol of the goddess who watched over transitions and crossroads. A recently unearthed mosaic in Israel also bears a token of faith—a cross on the floor of a chapel where Christians of the fifth and sixth centuries A.D. gathered to worship.

Colors, too, can act as symbols. For example, a woman's teeth were stained red with cinnabar around 2,000 years ago in China, likely to signal her high status. Further symbols of power in this issue include a one-inch-wide stamp seal that signified a person's relationship to the king of a tiny Bronze Age kingdom on the Arabian Gulf and the massive system of fortifications and other infrastructure built by Ali Pasha, the Ottoman ruler of swaths of what would become the modern nation of Albania.

Perhaps the most surprising symbols you will read about in this issue are the different types of fruit that stood for everything from the power of ancestry in the Maya world—as represented by avocados—to a display of impoverished women's resistance against governmental authority in nineteenth-century Australia.

Jarrett A. Lobell
Editor in Chief

ARCHAEOLOGY

Editor in Chief
Jarrett A. Lobell

Deputy Editor
Eric A. Powell

Executive Editor
Daniel Weiss

Senior Editors
Ilana Herzig
Benjamin Leonard

Editorial Assistant
Malin Grunberg Banyasz

Creative Director
Richard Bleiweiss

Maps
Ken Feisel

Contributing Editors
Roger Atwood, Paul Bahn,
Bob Brier, Karen Coates,
Andrew Curry, Blake Edgar,
Brian Fagan, David Freidel,
Tom Gidwitz, Andrew Lawler,
Stephen H. Lekson,
Jerald T. Milanich, Samir S. Patel,
Heather Pringle, Kate Ravilious,
Neil Asher Silberman, Julian Smith,
Matt Stirn, Nikhil Swaminathan,
Jason Urbanus, Claudia Valentino,
Zach Zorich

Publisher
Kevin M. Quinlan

Associate Publisher
Kevin Mullen

Director of Integrated Sales
Gerry Moss

Newsstand Consultant
T.J. Montilli
NPS Media Group

Office Manager
Malin Grunberg Banyasz
For production questions
contact materials@archaeology.org

Editorial Advisory Board
James P. Delgado, Ellen Herscher,
Ronald Hicks, Jean-Jacques Hublin,
Mark Lehner, Roderick J. McIntosh,
Susan Pollock, Kenneth B. Tankersley

Archaeology Magazine
36-36 33rd Street, Long Island City, NY 11106
tel 718-472-3050 • fax 718-472-3051

Subscription questions and address changes should be sent to Archaeology, Subscription Services,
P.O. Box 37142 Boone, IA 50037
toll free (877) ARKY-SUB (275-9782)
or subscription@archaeology.org

NEW SECRETS OF ANCIENT EGYPT – GROUNDBREAKING DISCOVERIES

A ROYAL EVENING
WITH
DR. ZAHI HAWASS

EVENT of the YEAR!

THE WORLD'S MOST FAMOUS ARCHAEOLOGIST

USA & CANADA GRAND LECTURE TOUR
MAY – AUGUST 2025

THE LOST PYRAMID • MISSING ROYAL TOMBS • NEW FINDS AT THE VALLEY OF THE KINGS • PROGRESS IN THE GOLDEN CITY

THE SEARCH FOR CLEOPATRA'S TOMB • SECRET ROOMS IN THE GREAT PYRAMID • KING TUT'S UNTOLD SECRETS • & MORE REVELATIONS!

Discover the greatest secrets of the Land of the Pharaohs! The time has come for the legendary Dr. Zahi Hawass to unveil ancient Egyptian mysteries that were lost for millennia.

The real-life Indiana Jones returns to North America to share the latest discoveries, reveal groundbreaking finds drawn from his most recent excavations and make the most thrilling announcements of his remarkable career. **This event will make history – live on stage – and you won't want to miss it!**

Join Dr. Hawass for a captivating all-new multimedia presentation prepared exclusively for this historic tour. Stay after the lecture for a Q&A session and a book signing.

Seats are limited – Register now

www.ZahiLectures.com
contact@zahilectures.com
646-757-1717

May 1	Phoenix, AZ	June 18	Charlotte, NC
May 3	Los Angeles, CA	June 21	Pittsburgh, PA
May 6	San Diego, CA	June 25	Columbus, OH
May 9	Las Vegas, NV	June 28	Chicago, IL
May 11	Oakland, CA	June 30	Minneapolis, MN
May 14	Portland, OR	July 3	Cleveland, OH
May 18	Seattle, WA	July 6	Indianapolis, IN
May 22	Denver, CO	July 9	Boston, MA
May 25	Austin, TX	July 12	Baltimore, MD
May 27	Oklahoma City, OK	July 16	Virginia Beach, VA
May 29	Dallas, TX	July 19	New York, NY
June 1	New Orleans, LA	July 21	Philadelphia, PA
June 5	Tampa, FL	July 23	Washington, DC
June 7	Orlando, FL	July 26	Vancouver, BC – Canada 🇨🇦
June 11	Nashville, TN	July 30	Toronto, ON – Canada 🇨🇦
June 14	Atlanta, GA	August 2	Montreal, QC – Canada 🇨🇦
June 16	St. Louis, MO		

FROM THE PRESIDENT

ASPIRATIONAL ARCHITECTURE

I recently returned from Athens, where I revisited the Acropolis and its wondrous 2,500-year-old architecture: the imposing entrance known as the Propylaea, the massive Parthenon, the Erechtheum's graceful porch, and the perfect proportions of the temple dedicated to Athena perched on the edge of the nearly 500-foot-high hill. As I climbed to the top on a breezy Thursday morning, I was surrounded by rowdy schoolchildren making their pilgrimage to the marble structures that highlight the city's classical past. Walking among them and hundreds of tourists reminded me of so many earlier processions to buildings that commemorate local cults, battle victories, and the city's artistic prowess. It also brought to mind how rulers from elsewhere built monuments at home to recall the place that had so moved them.

The Attalids, the Hellenistic kings of Pergamon in modern Turkey, raised statues and temples on their own acropolis to proclaim their capital as a new Athens. In Rome, Augustus incorporated the famous columns in the shape of women called caryatids that decorate the Erechtheum into the design of his forum, signaling the city's appreciation for—and perhaps also superiority over—classical Athens. Closer to home, the United States has many buildings that draw on classical traditions, including the White House, the Capitol, and the home of the Supreme Court. These structures reflect a young nation's desire to promote democratic principles over rule by tyrants or kings through architecture.

Parthenon, Nashville, Tennessee

Nowhere is the spirit of ancient Athens more visible in the United States than the Parthenon in Nashville, Tennessee. Originally built in 1897 for the Tennessee Centennial Exposition, this exact replica of the temple in Athens was designed to highlight the city's self-fashioned identity as the "Athens of the South." Like the Attalids and Romans, Nashville's residents have placed their own stamp on the iconic building. The space holds a museum of American art and offers programs for educating Nashville's schoolchildren in science, technology, engineering, arts, and math.

Through form, function, and context, architecture reflects the evolving aspirations of nations and cities. The Nashville Parthenon's mission to provide educational programming is overseen by Katherine Petrole, whom the Archaeological Institute of America (AIA) welcomes as our new Vice President for Societies. With more than 100 local societies in areas from Tennessee to Greece, the AIA supports discovering the value of the past in the present. Find out how to join your local society and share our passion for the wonders of lifelong learning at archaeological.org.

Elizabeth Greene

Elizabeth S. Greene
President, Archaeological Institute of America

ARCHAEOLOGICAL INSTITUTE *of* AMERICA

FOUNDED 1879

OFFICERS

President
Elizabeth S. Greene
First Vice President
Brian I. Daniels
Vice President for Cultural Heritage
Ömür Harmanşah
Vice President for Outreach and Education
Jennifer Thum
Vice President for Research and Academic Affairs
Kim Shelton
Vice President for Societies
Katie Petrole
Treasurer
James Jansson
Executive Director
Kevin M. Quinlan

GOVERNING BOARD

Elie Abemayor
David Ackert
Deborah Arnold
Alex W. Barker
Jeffrey Barnouw
Emma Blake, ex officio
Joost Blom
Jane Botsford Johnson
Thomas H. Carpenter
Jay Conger
Dawn Cox
Sandra L. Flow
Jennifer Gates-Foster
Andrew L. Goldman
Julie Herzig Desnick
Michele Kidwell Gilbert
SeungJung Kim
Andrea Kmetz-Sheehy
Margaret Laird
Jarrett A. Lobell, ex officio
Joanne Murphy
John Papadopoulos
Kathleen Pavelko
Kevin M. Quinlan, ex officio
Betsey Robinson
Robert Schon, ex officio
Daniel Schowalter
Monica L. Smith
Patrick Suehnholz
Jo Anne Van Tilburg
Maria Vecchiotti
Michael Wiseman

Past President
Laetitia La Follette

Trustees Emeriti
Brian Heidtke
Charles S. La Follette
David C. Seigle
Charles W. Steinmetz

Legal Counsel
Mitchell Eitel, Esq.
Sullivan & Cromwell, LLP

ARCHAEOLOGICAL INSTITUTE *of* AMERICA
2000 Commonwealth Avenue, Suite 415
Auburndale, MA 02466
archaeological.org

Meet the Hybrid That Never Needs Gas

A one-of-a-kind timepiece for the Impossible Price of $39!

Stauer®
Impossible Price
ONLY
$39

Innovation is the path to the future. Stauer takes that seriously. That's why we developed the *Yellowjacket Hybrid Watch*, an impressive timepiece that's sure to turn heads. We originally priced the Yellowjacket at $399 based on the market for advanced sports watches … but then stopped ourselves. Since this is no ordinary economy, and everyone else has raised their prices, we decided to start at 90% OFF! This technological marvel can be yours for ONLY $39! Only Stauer can offer you a price this good.

When it comes to purchasing a quality, timeless timepiece, there's one question every prospective buyer must consider: digital or analog. Both have their advantages. We say, why not have both?

Our Men's Yellowjacket Hybrid Watch is a surprising innovation. Its digital readout is powered by a precise quartz engine that combines both analog and digital timekeeping. Outfitted with a stopwatch, alarm, a.m./p.m. settings and day, date and month complications, this timepiece is hard to beat.

With its large face and handsome, masculine design, this watch is perfect for the back nine and the happy hour afterward. Water-resistant up to 3 ATM, this timepiece won't wimp out if it has a run-in with a water hazard. And best of all is the color of its case and band: This watch boasts two tones.

Lately, two-tone watches have been the toast of the luxury watch world: "Two-tone is the physical embodiment of work-hard, play-hard," says Hodinkee, a website that chronicles the watch industry. But where luxury brands are charging hundreds simply for their two-tone watch bands, we're asking JUST $39 for an entire two-tone watch!

Act now! We only have ~~1,237~~ 731 available for this ad, and half have already sold! And if this watch doesn't live up to your expectations for some reason, return it for a refund with no questions asked.

Watch Specifications:

- Precision movement
- Two-tone stainless steel band
- Stopwatch, alarm, a.m./p.m. settings and day, date and month complications
- Water-resistant to 3 ATM

50
10
Stauer
COUNT DOWN
WR30M
DUAL TIME
24H
40
20
30

"Love the style and the combo of analog and digital!"
— Rich C., Plainfield, IL

Men's Yellowjacket Hybrid Watch ~~$399~~
$39* + S&P *Save $360*
*You must use Insider Offer Code: YHW169-01 to get this price.

1-800-333-2045
Your Insider Offer Code: YHW169-01

JOIN MORE THAN 1 MILLION SMART PEOPLE WHO LOVE THEIR STAUER WATCHES

Stauer, 14091 Southcross Drive W., Dept. YHW169-01, Burnsville, MN 55337 | **www.stauer.com**

Stauer® | AFFORD THE EXTRAORDINARY®

FROM OUR READERS

PIG TALES

As always, a fascinating issue. I especially liked the article "On the Origin of the Pork Taboo" (March/April 2025) since I know nothing about pigs. However, I felt two details were omitted in the history of pigs. The article states that the Hittites ritually sacrificed pigs and slowly stopped. It doesn't mention ancient Greece. In Aeschylus' fifth-century B.C. tragedy *Eumenides*, the hero Orestes says he sacrificed many pigs in hopes of a ritual cleansing. The fact that this is mentioned in a play implies that the author knew the audience would be familiar with the ritual.

The second detail is the role of wild boars in Greek mythology. They are described as monsters that a hero has to fight at great risk. Capturing the Erymanthian boar was the fourth labor of Hercules. Another heroic tale was the quest for the Calydonian boar, which required a gathering of hunters to finally kill it. I'm pleased to say that among the hunters was Atalanta, a follower of Artemis, goddess of the hunt.

Marian Powell
Chino Valley, AZ

Archaeology welcomes mail from readers. Please address your comments to Archaeology, 36-36 33rd Street, Long Island City, NY 11106, fax 718-472-3051, or e-mail letters@archaeology.org. The editors reserve the right to edit submitted material. Volume precludes our acknowledging individual letters.

Pigs' bodies are enough like humans' that they are a common vector for spreading animal diseases to their human caretakers. I've often wondered if that was recognized and was part of the thinking that led to the prohibition. It was an interesting article, as I have come to expect from Archaeology.

Eliza Gouverneur
Amherst, MA

TOO FEW GOOD MEN

I always enjoy Archaeology, and the March/April 2025 issue was no exception. I have one comment on the article "Iberian Gender Imbalance." I have no explanation myself for this gender imbalance, but I am skeptical of the archaeologists' suggested explanation—what society could ever survive unidirectional exogamy? To say that 90 percent of the males left, without a similar number of males coming in from other populations, does not seem credible.

Tom Hynes
Ottawa, Canada

TEMPEST TALISMANS

Perhaps comparing this pottery decoration to spirals of the lightning whelk shell is not the only possible interpretation ("The Shell Seekers," March/April 2025). These hunter-gatherers did live in the middle of what could be considered "hurricane alley" in Florida. Could it be that they recognized the counterclockwise, left-spiraling motion of hurricanes, and could the small round holes on the pottery be the pounding rain? Maybe double and triple parallel lines that began on the rims of the vessels could be lightning coming from clouds?

Joey Moldenhauer
Salem, VA

Archaeologist Zackary Gilmore replies: People in Florida have certainly always had to deal with the threat of hurricanes. I'm not sure how aware they would have been of the storms' spiral shape, but perhaps that's something they might have been able to infer based on their experience. It's a really interesting idea.

FAMILY TRAGEDY

"Lost Greek Tragedies Revived" (January/February 2025) was an interesting article to read. I would be curious to know the relationship between the woman and the child in the burial that included the fragment. Perhaps the fragment wasn't just another piece of trash or taken from another burial.

Amber Alexander
Rogers City, MI

Correction: The top caption on page 43 in "The Secrets of Porvenir" (March/April 2025) should have read: "Cartridge casings recovered from the site of the Porvenir massacre include military-issue .45 ACP handgun rounds (top row) and .30-06 rifle cartridges (bottom row)." The bottom caption should have read: "Bullets found at the site include .45 long Colt (top row), commonly used by civilians, and military-issue Colt Model 1911 .45 ACPs (bottom row)."

Alliance for Audited Media

Archaeology (ISSN 0003-8113) is published bimonthly for $47.94 by the Archaeological Institute of America, 36-36 33rd Street, Long Island City, NY 11106. Periodicals postage paid at Long Island City, NY, and additional mailing offices. POSTMASTER: Send address changes to Archaeology, P.O. Box 37142 Boone, IA 59937.

Subscriptions should be addressed to Archaeology, Subscription Services, P.O Box 37142, Boone, IA 50037, toll-free (877) ARKY-SUB (275-9782), subscription@archaeology.org. $29.95 per volume. Single numbers, $7.99. Foreign and Canadian subscriptions, $44.95; includes all government taxes (130277692-RT). Canadian Publication Agreement #1373161. Allow six weeks for processing new subscriptions. Send manuscripts and books for review to 36-36 33rd Street, Long Island City, NY 11106 or editorial@archaeology.org. All manuscripts are reviewed by experts. Advertisements should be sent to the Advertising Director, 36-36 33rd Street, Long Island City, NY 11106, (718) 472-3050, advertising@archaeology.org. We are not responsible for unsolicited manuscripts and photographs. For subscription problems please call (877) 275-9782; AIA members with subscription problems should call the membership office at (857) 305-9350. All rights reserved. Printed in USA. The views and opinions expressed do not necessarily reflect the policy of the AIA or Archaeology.

©2025 The Archaeological Institute of America

DIGS & DISCOVERIES

BRITAIN'S RAVENOUS RAPTORS, PALEOLITHIC PLANNERS, FESTIVE FISH FEASTS...AND MUCH MORE

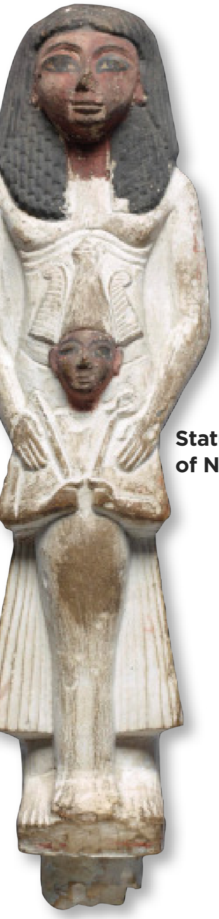
THE CAT AND THE FAT

During the 19th Dynasty (ca. 1295–1186 B.C.), the village of Deir el-Medina, on the Nile's west bank in Upper, or southern, Egypt, was home to a community of civil servants and artisans who built and decorated the royal tombs in the nearby Valley of the Kings. Scholars are on unusually familiar terms with these people. "As expert scribes and draftsmen, they left quite a lot of writing," says Egyptologist Rob Demarée of Leiden University. At the site, archaeologists have excavated tens of thousands of texts written on papyrus and ostracons—discarded pieces of pottery or stone used like scrap paper. In 1997, Demarée began compiling these texts into an online database that now contains more than 5,000 records. Although some texts are accounts of mundane work, others paint a portrait of life in the ancient village.

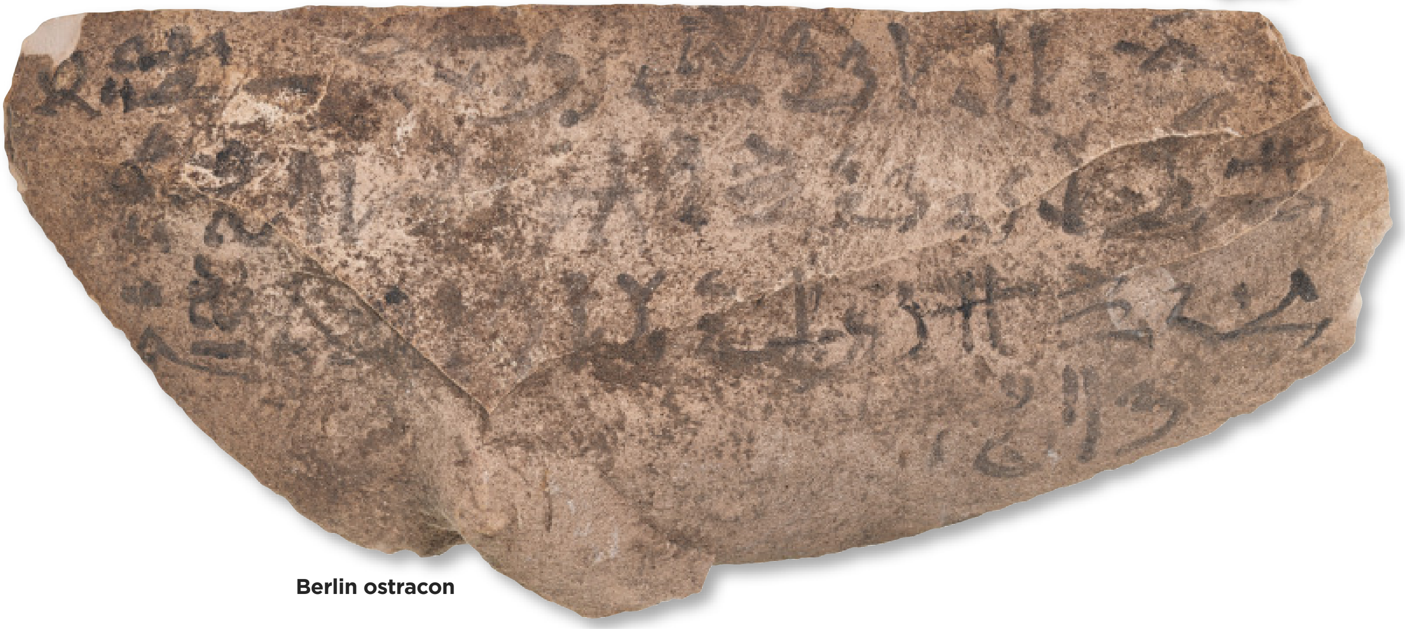
About 25 years ago, while perusing Berlin's Egyptian Museum and Papyrus Collection's newly digitized archive of ostracons, Demarée came across a curious note on a limestone ostracon that had been found at Deir el-Medina in 1913. The note reads: "To Khay. Let there be brought some fresh goose fat directly, very, very quickly because the cat has eaten that which was brought to me yesterday." The exploits of the mischievous feline caught Demarée's attention, but the brief memo provided no further context for the rush request.

Years later, a colleague sent Demarée the text of a related letter written on another limestone ostracon, this one housed in the Royal Pump Room Museum in the northern English town of Harrogate. It reads, in part: "Draftsman Nebre cannot sleep well. Let someone look for some fresh goose fat and let it be brought at once. Please go to the woman who knows about deaths." Both notes were written in the same hand using hieratic, a shorthand script invented by Egyptian scribes to simplify the complex system of hieroglyphs.

The Harrogate ostracon identifies the sender as Nakhtamun, who is known from other texts to have been Nebre's son and Khay's younger brother. All three men worked as draftsmen in the tombs of the thirteenth-century B.C. pharaohs Seti I and Ramesses II. Nebre had myriad health problems, to which he alludes on several steles found at Deir el-Medina, beseeching different gods to restore his health. The village's other residents,



Statuette of Nebre



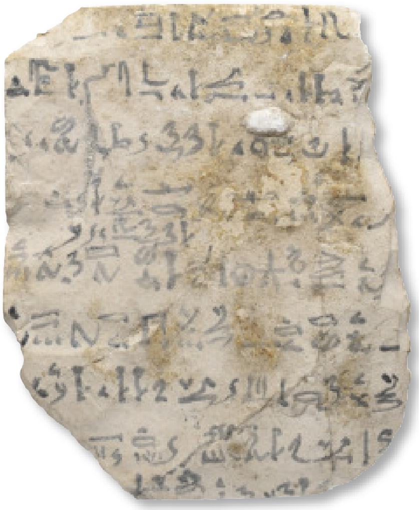
Berlin ostracon

Demarée explains, took similar actions in the face of misfortune. "People sinned against the gods by not observing their rules," he says. "Then they became very afraid and tried to propitiate the gods by putting up a stele or promising an offering." To cure his repeated bouts of illness, Nebre and his sons dedicated steles not only to the principal god, Amun, but also to deities such as the sky god Haroeis, the cobra goddess Meretseger, and goddesses known as "the good swallow" and "the good cat."

Nakhtamun's urgent demand for a goose-fat sleeping aid implies that, in addition to his bodily ailments, Nebre was suffering from nightmares. "The 'woman who knows about deaths' was a midwife in the village who probably had other abilities," Demarée says. "From the other texts in which she is mentioned, you get the idea that people consulted her in times of need." Even if she had been able to supply more goose fat to replace the batch purloined by the cat, the remedy would have been unlikely to offer Nebre much relief. "Rubbing him with goose fat probably would have relaxed the muscles somewhat," says Demarée, "but that wouldn't have cured a nightmare."

—Benjamin Leonard

Harrogate ostracon

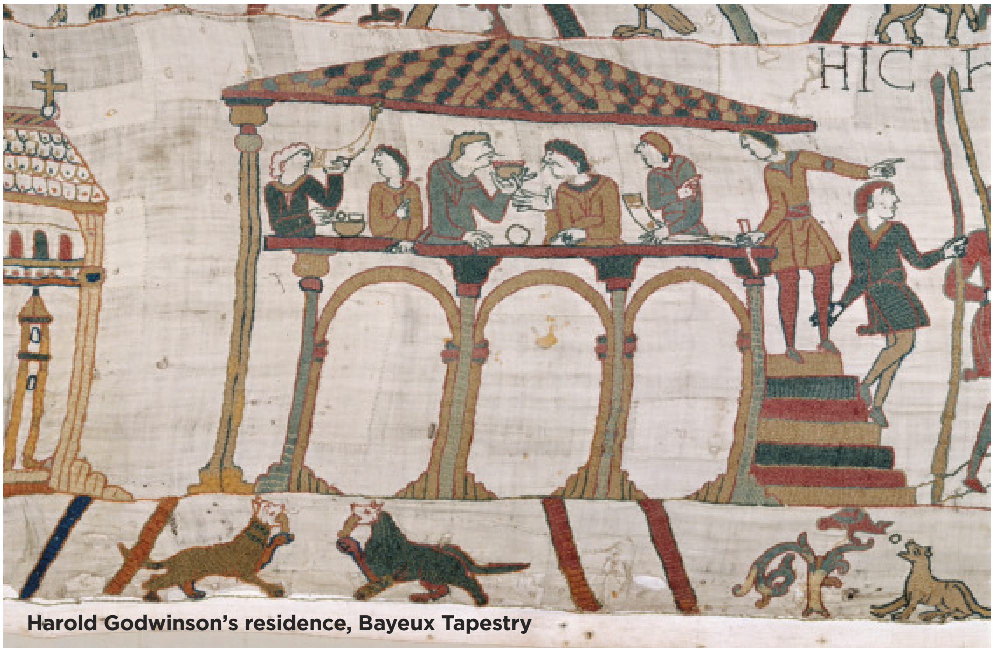


THE KING'S THRONE

The Bayeux Tapestry, a 230-foot-long linen cloth crafted in the eleventh century, depicts scenes from William the Conqueror's invasion of England and his defeat of Harold Godwinson, England's last Anglo-Saxon king, at the Battle of Hastings in 1066. (See "Unfolding the Bayeux Tapestry," January/February 2021.) There are detailed images of boats, horses, battles, fish, and even of Harold himself. Only four actual places in England are shown on the tapestry—one being Harold's residence—but their locations have been hard to identify. "Despite the tapestry's relative notoriety," says Newcastle University archaeologist Duncan Wright, "it's unusual that little concerted effort has been made by archaeologists to locate Harold's complex on the ground."

A team led by Wright has now confirmed the location of the king's home. The archaeologists investigated a site known as Bosham Manor House that local tradition has long linked with Harold. The village of Bosham is known to have been one of Harold's chief seats of government and the location of his harbor and personal fleet. Wright's team surveyed the property and reexamined results from old excavations. A key piece of evidence caught their attention––a latrine located within the ruins of a tenth-century timber building. Only homes belonging to people of the highest status during that era had toilets attached to their private bedchambers. Considering the existence of these en suite facilities, researchers believe that the property must have belonged to Harold's family. "This is a rare example of being able to correlate the archaeological sources with a scene from the Bayeux Tapestry," says Wright. "We often think of the tapestry as just an artwork, but here we have evidence that it captures real sites and landscapes."

—Jason Urbanus



Harold Godwinson's residence, Bayeux Tapestry

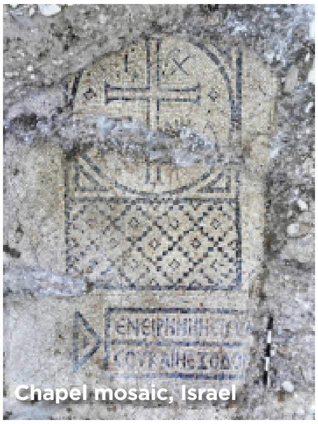
BYZANTINE BOOMTOWN

Archaeologists from the Israel Antiquities Authority have unearthed parts of a Roman and Byzantine settlement just outside the modern city of Kiryat Gat. The researchers believe the settlement was founded in the first century B.C. and flourished for more than 600 years, thanks to its location along an important road connecting the Judean Mountains with the coastal plain. The settlement seems to have been especially prosperous during the fifth and sixth centuries A.D., based on evidence of an extensive building campaign as well as distinctive types of pottery, coins, and decorative marbles found at the site. Also dating to this period are remnants of successful winemaking and ceramic industries, which produced goods for use by local communities as well as for export throughout the Mediterranean.

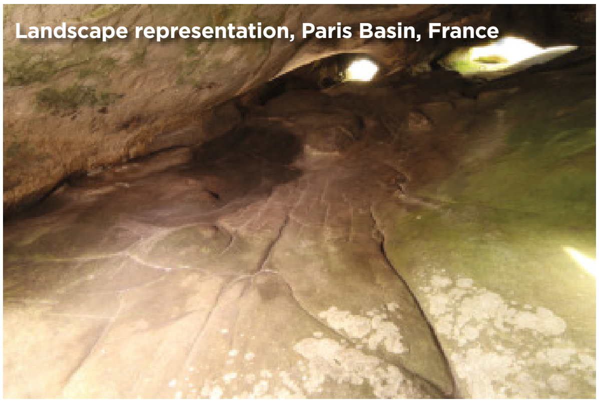
This Byzantine expansion of the Roman settlement seems to have been centered around a newly established monastery, which had a chapel featuring an ornate mosaic floor. The mosaic's colorful design includes crosses, lions, doves, flowers, and geometric patterns. At its center is a passage in Greek from the Hebrew Bible's Book of Deuteronomy that reads, "Blessed are you when you come in, and blessed are you when you go out." Around 10 buildings have been uncovered to date, but experts believe that much of the settlement remains buried and that it is likely the largest and most significant Roman–Byzantine site ever discovered in southern Israel.

—Jason Urbanus

Roman and Byzantine settlement, Israel


Chapel mosaic, Israel

LAY OF THE LAND


Landscape representation, Paris Basin, France

A rock shelter 40 miles south of Paris contains what researchers believe is a representation of the surrounding landscape created by Paleolithic hunter-gatherers around 13,000 years ago. Research led by geologist Médard Thiry of Mines Paris–PSL suggests that these long-ago people carved channels into the shelter's sandstone floor that, combined with its natural undulations, produced a model of water flowing from the area's highlands into streams and rivers that, in turn, fed lakes and swamps. "When you are looking carefully at the sandstone's features, you can clearly distinguish what is natural and what has been modified," Thiry says. "In this case, the floor of the shelter is marked with a lot of grooves that don't appear to be natural." Water would have flowed through the network after rainfall; it could also have been poured directly into the system. Thiry believes the purpose of the representation may have been to honor the role water played in people's lives.

Before turning his attention to the floor, Thiry had identified a pair of carvings depicting horses that he has dated to around 13,000 years ago surrounding an image of a woman's pubic area in the shelter. He believes that the landscape representation was executed around the same time. Geologist and archaeologist Vincent Delvigne of the French National Center for Scientific Research, who studies how prehistoric people understood and represented geographical space, agrees with Thiry that people carved the shelter's floor to represent their environment, but notes that it is difficult to be sure exactly when this happened. "We have limited knowledge of how prehistoric humans represented space and landscapes," says Delvigne.

—Daniel Weiss

UPDATE

MAKING HISTORY

Native American oral history and archaeological data alike suggest that farmers in parts of North America began abandoning major settlements such as Mesa Verde in Colorado and Cahokia in Illinois sometime after 1150. Now, a team led by archaeologist Robert Kelly of the University of Wyoming has studied this period using a previously assembled database of some 100,000 radiocarbon dates from across the United States. (See "Save the Dates," July/August 2022.) They used the dates to track population movements and demographic decline during this turbulent era, which was marked by drought, warfare, and disease. "We knew in a piecemeal fashion that these conditions drove demographic changes in different regions," says Kelly. "But the radiocarbon data gives us a powerful new tool to understand population decline across the continent."

Mesa Verde, Colorado

Cahokia, Illinois

After dividing the United States into 18 watersheds, the team analyzed the frequency of radiocarbon dates in each region and demonstrated that a cascading demographic collapse began in the central Rockies around A.D. 800 and later accelerated in multiple regions of central North America after 1150. The team's analysis shows that the population of watersheds in California, the Pacific Northwest, the Great Lakes, and New England actually grew during the same period. This was likely because groups made their way from regions stricken by drought and warfare toward the coasts. Nonetheless, the radiocarbon data suggests that the overall Native American population declined by at least 30 percent from its peak before 1150. "Had the Europeans showed up 300 or 400 years earlier, they would have encountered a much larger population—some of the big centers like Cahokia could have put a couple thousand warriors on the battlefield instantly," says Kelly. "The Europeans wouldn't have lasted a day."

—Eric A. Powell

How is this even possible? This necklace is FREE!

"Elegant and beautiful and the type of rich elegance that anyone would be thrilled to own, and never a disappointment!"
— E. B., Stone Mountain, GA

"Gift of the Year"
★★★★★
Client Rating of
4.9 Stars!

Jewelry that says more than words ever could

Stauer®
Impossible Price
FREE
Necklace

When Two Hearts Join–for FREE

Stauer is rewriting the rules with our **FREE 2-1/3 Carat Two Hearts Necklace.** That's right—zero dollars.* This genuine Diamond*Aura*® treasure, valued at $199, is yours for FREE—just cover $24.95 for shipping and processing. Plus, we'll include a **$25 Discount Coupon**, making shipping Better Than Free! No gimmicks, no catch—though resisting our luxury deals will be the real challenge.

Fall in love with the exquisite elegance of our **FREE Two Hearts Necklace**—a timeless symbol of two souls intertwined. Inspired by that moment when everything clicks, and you know you've found the one, this piece captures the beauty of love's journey. Encased in 14k gold and crafted with precision and passion, it embodies the essence of devotion, reminiscent of classic romances from Shakespeare to Austen.

A customer favorite with a stellar **4.9-star rating**, this heirloom-worthy piece is now at its lowest price ever—even as gold soars to record highs—making it the Gift of the Year.

Join our family of over 3 million happy Stauer clients who have found out that you CAN Afford The Extraordinary.

This deal won't last—we **only have** ~~4,000~~ **2,385 left. Call now to claim your FREE necklace** and experience a new kind of priceless luxury!

Two Hearts Collection — Call in Only

A. Necklace (2 ⅛ ctw)	~~$199~~	**FREE*** + S&P	***Save $199***
B. Bracelet (13 ⅖ ctw)	~~$299~~	**$49*** + S&P	***Save $250***
C. Earrings (4 ¼ ctw)	~~$229~~	**$49*** + S&P	***Save $180***
Necklace, Bracelet and Earrings	~~$727~~	**$79*** + S&P	***Save $648***

**Special price only for customers using the offer code.*

1-800-333-2045

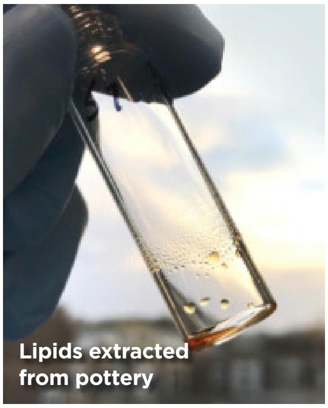
Your Insider Offer Code: THC225-02

* This offer is valid in the United States (and Puerto Rico) except in TX, FL, CO, OK, RI, NH, WV, OR, SC, VA, CA and ID. These state residents will be charged one cent ($.01) + shipping & processing for the item. Void where prohibited or restricted by law. Offer subject to state and local regulations. Not valid with any other offers and only while supplies last. This offer is limited to one item per shipping address. *** Free is only for customers using the offer code versus the price on Stauer.com without your offer code.*

Stauer, 14091 Southcross Drive W., Dept. THC225-02, Burnsville, MN 55337 | www.stauer.com

Stauer® | AFFORD THE EXTRAORDINARY®

SOMETHING'S FISHY



Lipids extracted from pottery

Indigenous people began building earthen mounds more than 4,000 years ago in the Patos Lagoon estuary on the coast of southern Brazil. Researchers have now found evidence that these mounds served as gathering places for feasts connected to the seasonal abundance of fish. Working as part of the TRADITION project, a team including archaeological scientist Marjolein Admiraal, then of the University of York, employed molecular and isotope analysis to examine food residues on potsherds recovered from two mounds at the site of Pontal da Barra, on the lagoon's southern end. These mounds were constructed between about 2,300 and 1,200 years ago. Researchers were surprised to discover that the sherds showed that people had used the vessels for two very different purposes.

115.05.625
115.05.631
115.05.633
115.05.635
115.05.634
115.05.626

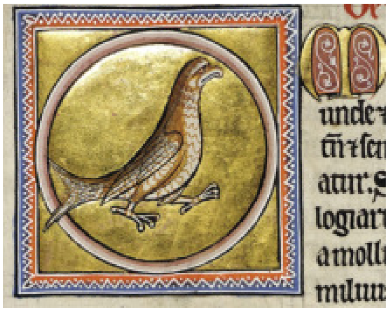
Potsherds

On certain sherds, the team detected high concentrations of fatty acids associated with marine species. This indicates that Indigenous people used the vessels to cook fish such as whitemouth croaker and catfish, remains of which have been found at the site. Other sherds had very low amounts of lipids, but included biomarkers for plants such as maize and palm. On these pots, the team also identified signs of heating and lipids called bacteriohopanes—markers of bacterial action likely produced by fermentation. Admiraal explains that other Brazilian Indigenous groups sometimes heated plants to produce fermented drinks. "We suggest that the mound builders may also have fermented plants to make alcoholic beverages," Admiraal says, "and that this was connected to seasonal celebrations that attracted people from the wider region."

—Benjamin Leonard

STICKING TO THE RAPTOR DIET

The diet of British birds of prey in the distant past was very different from that of their descendants. A team led by archaeologist Juliette Waterman of the University of Reading discovered surprising disparities between bones of raptors such as red kites found at Roman and medieval archaeological sites and those of the same birds that lived during what scholars call the modern period, which began in the seventeenth century. Chemical analysis of the bones showed that in the Roman period, the birds' diet included meat from domesticated mammals such as sheep, cows, and pigs, which they took from scraps of human food waste. The team found that by the medieval period, raptors were dining out almost exclusively on livestock scavenged from human settlements. That changed dramatically in the early modern period, once people began making a concerted effort to maintain sanitary living conditions. "By the modern era, you no longer have pig carcasses rotting in the streets," says Waterman, who notes that raptors in this period seem to have subsisted on a diverse diet of wild mammals, small birds, and earthworms. Rabbits also provided an abundant food resource for modern birds of prey. The animals were introduced to Britain during the Roman period and were kept by farmers in warrens. In the late medieval period, escaped rabbits proliferated in the wild—as rabbits do—giving raptors a new menu option.



Red kite, 12th-century manuscript

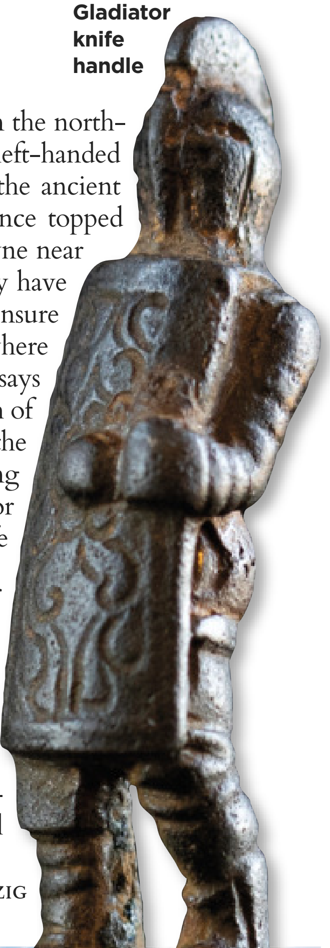
Raptor bone

Red kite

After nearly going extinct in England in the twentieth century, red kites were reintroduced beginning in 1989, and there are now some 6,000 breeding pairs in southern England. But with wild prey growing scarcer, these resourceful birds are increasingly venturing into urban areas in search of food. "We have news stories about red kites snatching sandwiches from children and plates of meat from barbeques," says Waterman. "We need to remember that we have a long history with these birds, and they don't always behave in ways you expect."

— Eric A. Powell

HERO WORSHIP



Gladiator knife handle

A bronze knife handle discovered in the 1990s in the northern English town of Corbridge depicting a left-handed gladiator has offered insight into fandom in the ancient Roman world. The two-inch-long handle, which once topped a folding pocketknife, was discovered in the River Tyne near a Roman fort built in the mid-80s A.D. The knife may have been a gift to a deity left by a soldier or merchant to ensure good fortune. "There's a small platform at Corbridge where it looks as if people were offering things to the river," says archaeologist and collections curator Frances McIntosh of English Heritage, who led a team that recently studied the artifact. "Roman religion was contractual, so the offering might have been in advance of asking for something or as a thanksgiving for having received something like safe passage across the frontier."

The figure on the handle likely represents a type of gladiator known as a *secutor*, or pursuer, who may have chosen to train with his left hand to gain an advantage. (See "Let the Games Begin," November/December 2024.) "The knife handle tells us about leisure and fan culture and shows that gladiator fandom spread across the Roman Empire," says McIntosh. "Even in Corbridge—the empire's most northern town—gladiatorial combat was of interest and importance."

—Ilana Herzig

Roman ruins, Corbridge, England

ROMAE

Luxury Jewelry
Inspired by Ancient
Roman Designs

Introducing ROMAE, a line of jewelry created by a classical archaeologist and an artist who live and work in Rome. Our jewelry embodies a love of antiquity and a desire to revive ancient Roman jewelry shapes, types, clasps and ingenuity in design. Each piece is carefully crafted to recall the elegance and eternal appeal of the original.

ROMAE Jewelry. From Rome, with love!

ROMAE

Rome · New York
www.romaejewelry.com
info@romaejewelry.com

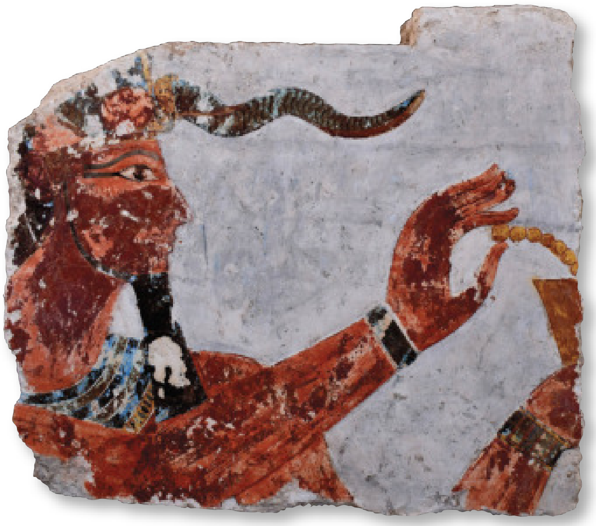
PHARAOH'S FATE

Extensive remnants of one of the temples commissioned by the female pharaoh Hatshepsut (reigned ca. 1473–1458 B.C.) have been discovered in the town of Deir el-Bahari on the west bank of the Nile. The newly unearthed ruins include 1,500 decorated stone blocks featuring bas-reliefs and inscriptions. Among the artifacts are more than 100 limestone and quartzite tablets engraved with Hatshepsut's royal cartouches showing both her birth name and throne name.

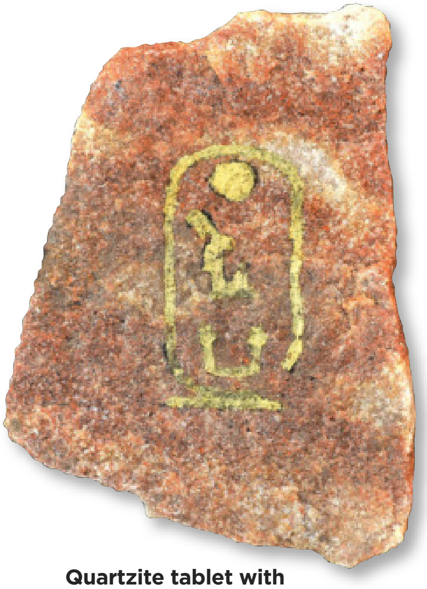
Amid the temple's wreckage, the team found blocks containing cartouches of the pharaoh Thutmose III (reigned ca. 1479–1425 B.C.), including versions known to have been used after Hatshepsut died. According to Egyptologist Zahi Hawass, who led the excavations, this counters the widely accepted story of how Hatshepsut met her demise. "It's written in history that Thutmose III killed Hatshepsut and destroyed her monuments," he says. "But our discovery proves that he maintained the cult of the queen in this temple after her death." Hawass believes the temple was demolished later, during the 19th or 20th Dynasty (ca. 1295–1070 B.C.), by officials bent on effacing the memory of Egypt's most powerful female ruler.

—Daniel Weiss

Temple block with bas-reliefs



Depiction of Thutmose III on temple block



Quartzite tablet with Hatshepsut cartouche

Temple block with bas-reliefs

Temple block with bas-reliefs

TRIPLE PLAY

Limited Collector's Edition

Three knives. ONE amazing price! Originally $249. Limited time special offer ONLY $69!

Not shown actual size.

TAKE 72% OFF INSTANTLY!

When you use your INSIDER OFFER CODE

What customers are saying about Stauer knives...

★★★★★

"First off, the shipping was fast and the quality is beyond what I paid for the knife. Overall I am a satisfied customer!"

— D., Houston, Texas

Looking for a knife that's a cut above? We can do you two better. The ***Triple Play Knife Collection*** gives you three different styles of hunting blades for one unbelievably amazing price of just $69. Because serious hunters know that sometimes one knife isn't enough, and so do serious collectors.

All three blades in the ***Triple Play Knife Collection*** are made with genuine 440A stainless steel and measure an impressive 52-58 on the Rockwell scale for hardness. There's the reliable lockback blade, designed to open up and never let you down. The two-blade trapper knife, engineered for those who trap small game, and a solid, simple, fine fixed blade measuring 9" in overall length, and the antler-textured handles on every knife complete the expert hunter look.

With all three blades along with a decorative display box priced at just **$69**, this is some big collectible prey worth hunting down. This deal truly is a cut above.

Satisfaction Guaranteed or Your Money Back. Try out the ***Triple Play Knife Collection*** or 30 days. If it doesn't make the cut, send it back for a full refund of the item price.

Limited Reserves. We only have 850 available for this ad only at this incredible price. Call today!

Triple Play Knife Collection ~~$249~~*

Offer Code Price Only **$69** + S&P Save $180

1-800-333-2045

Your Insider Offer Code: TPK226-01

You must use the insider offer code to get our special price.

Stauer®

14091 Southcross Drive West, Dept. TPK226-01
Burnsville, Minnesota 55337 www.stauer.com

BBB ACCREDITED BUSINESS
Rating of A+

CONSUMER AFFAIRS ACCREDITED

**Discount is only for customers who use the offer code versus the listed original Stauer.com price.*

California residents, please call 1-800-333-2045 regarding Proposition 65 regulations before purchasing this product.

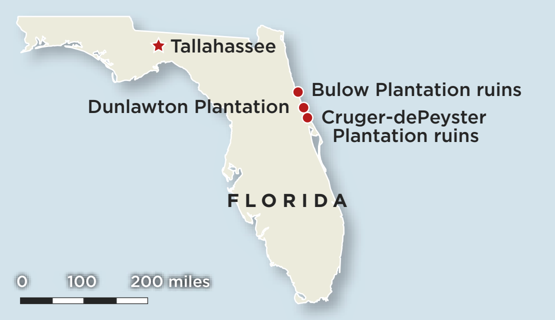
• 3-piece set: 9" overall fixed knife with 5" blade; 4 ⅛" trapper knife with two 3 ⅜" blades; 4" overall lockback knife with 3" blade • Stainless steel blades with antler patterned resin handle • Comes in decorative display box

Stauer... *Afford the Extraordinary.®*

BULOW PLANTATION RUINS, FLORIDA

Seventy-five miles northeast of Disney World, a tangled forest of palms, pines, and mossy oaks nearly reclaims the charred remnants of Bulow Plantation and the hulking ruins of its massive steam-powered sugar mill. The largest sugar plantation in eastern Florida when it operated from 1821 to 1835, Bulow is now an important site for scholars researching the archaeology of enslavement. During excavations from 2014 to 2018, and through recent archival discoveries, they have revealed a much more complicated and more horrific place than they had previously imagined.

In 1823, two years after the United States acquired Florida from Spain, John Bulow inherited 4,700 acres in what's now known as Bulow Plantation Ruins Historic State Park. Bulow surrounded his home at what he called Bulowville with a semicircle of 46 cabins to house between 150 and 400 enslaved Africans, according to differing estimates. His contemporaries described Bulow as an unstable, drunken, sadistic monster who built his boat slips using a copious array of discarded liquor bottles. Bulow is known to have tortured the people he enslaved, murdering four of them in his rages. "You just don't know what he's going to do," says archaeologist James Davidson of the University of Florida. The life of an enslaved African at most other plantations was also terrible, but it was predictable. "It's the unpredictability of Bulow that makes it more terrifying," Davidson adds. During the Second Seminole War (1835–1842), American troops encamped at Bulowville, imprisoning Bulow, then abandoned the premises in a rush in January 1836, taking the plantation owner with them. Seminoles burned the entire compound a few days later. After a few months, Bulow died of cirrhosis or another type of wasting disease.



Davidson and his team excavated two of the destroyed cabins. At one, just six inches below the topsoil, they found charred corncobs and corn kernels lying on the scorched wooden floorboards. "It was right out of history. They just literally left everything," says Davidson. "It was startling to see." They also found artifacts of enslaved life. These included handcrafted tools for working with textiles such as clay spindle whorls, a tool for lacemaking fashioned from a cow's rib, and a spool carved from a shark vertebra. A decorated blue-and-white plate lay shattered on the floor, fragments of a high-end import from Staffordshire, England. Gunflints, percussion caps, and musket balls found at the Bulowville cabins were likely left by the troops, but proprietors of nearby plantations did sometimes arm enslaved Africans. "Slavery isn't monolithic," says Davidson. "Every experience is unique."

Sugar mill, Bulow Plantation Ruins Historic State Park

Cabin, Bulow Plantation Ruins Historic State Park

THE SITE

The cabins are filled in, although the stone outlines of a subfloor pit—a storage space for food and personal possessions—are visible in one cabin. At the sugar mill, two chimneys still stand more than 30 feet tall. A short walk around the complex shows how it functioned: Sugarcane was crushed in the boiling house, and the juice was heated and ladled into a series of kettles until it became granulated. In rooms called purgeries, molasses was drained from crystallized sugar. Little is left of the demolished main house, although the boat slips in Bulow Creek are still visible.

WHILE YOU'RE THERE

The Seminoles effectively ended the experiment of sugar production in eastern Florida. Other 1830s sugar mills near Bulow had strange afterlives. The evocative Cruger-dePeyster Plantation ruins were touted in the early twentieth century as Columbus' chapel or a Spanish mission, before scholars proved otherwise. Dunlawton Plantation's ruins were reimagined in 1948 as Bongoland, a now sadly defunct dinosaur-themed amusement park. "Life-size" *T. rex* and *Stegosaurus* models are still stationed around the sugar works. For an Old Florida–style stay or snack near Bulow Plantation, try the Golden Magnolia in Flagler Beach, an oceanfront B&B in a 1945 house built by the town's first mayor.

Archaeological
Institute *of* America

Help Us Create a *Bright Future* For Archaeology

A MESSAGE FROM OUR PRESIDENT

"When you give to the AIA through a contribution to the ***Annual Fund****, you support the vital work of aspiring and professional archaeologists, educate the public about the significance of archaeological discovery, and preserve the world's archaeological heritage."*

Elizabeth S. Greene
AIA President

YOUR IMPACT:

EXCAVATE

Last year, your generosity helped us send **eight aspiring archaeologists** to their first field school experience through the Jane C. Waldbaum Archaeological Field School Scholarship.

EDUCATE

For the last **75 years**, *ARCHAEOLOGY* Magazine has captivated readers with the latest archaeological discoveries, photo essays, and reports from the field, bringing them closer to the human past.

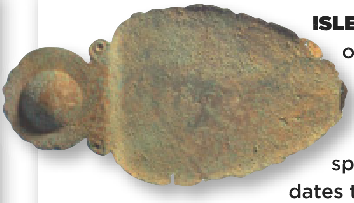
ADVOCATE

Our 2023 Site Preservation grant was awarded to Bears Ears Partnership in Utah. All conservation efforts were planned and executed in partnership with the USFS, the Ancestral Lands Youth Conservation Corps, and Woods Canyon Archaeology.

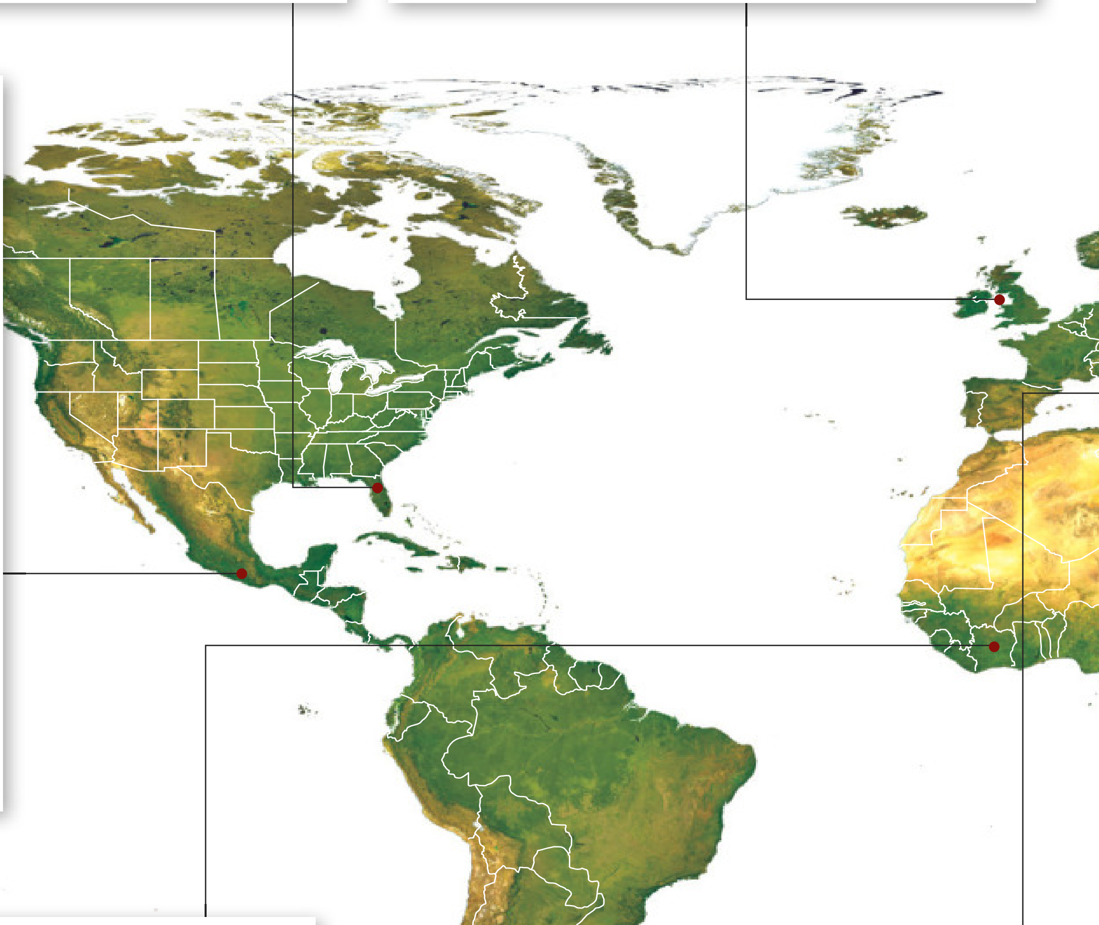
MAKE YOUR GIFT TODAY
archaeological.org/donate

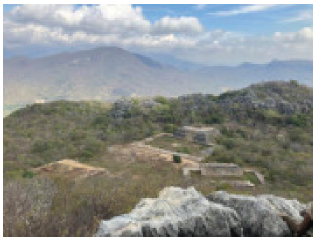
AROUND THE WORLD BY JASON URBANUS

FLORIDA: A new discovery has been made in St. Augustine: part of a fort built by the British during their brief occupation. Although the city was founded by the Spanish in 1565, it was held by the British from 1763 to 1784. During that time, to protect the city's western edge, they constructed 7 small earthen forts, or redoubts, one of which was recently unearthed in a vacant lot downtown. When the Spanish retook control, these defenses were abandoned and largely forgotten.



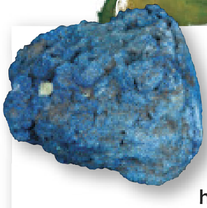
ISLE OF MAN: Iron Age inhabitants of the Isle of Man didn't have crystal balls, but they did have their own special tools to predict the future: divination spoons. One such utensil, which dates to between 400 and 100 B.C., was recently found on the island. The bowl of the bronze strawberry-shaped device is engraved with 2 lines that form a cross. Scholars believe that priests poured liquids into the spoon and foretold the outcome of future events based on which quadrant they settled into.



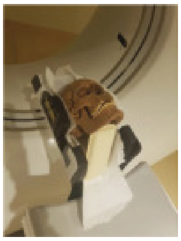


MEXICO: A lidar scan of the 15th-century Zapotec site of Guiengola in southern Oaxaca mapped previously unseen features that are currently covered in thick vegetation. Archaeologists had thought that the site consisted of no more than a fortress where soldiers were garrisoned. They now know that Guiengola was a 900-acre urban center boasting a well-organized road network and more than 1,100 buildings, including temples and ball courts.

IVORY COAST: Humans adapted to unfavorable climates more easily than previously thought. It was long believed that, as *Homo sapiens* spread out across Africa 300,000 years ago, they stuck primarily to savannas and avoided harsh rainforest environments, which were thought to have acted as barriers to human settlement until 70,000 years ago. Discoveries made at a site known as Bété 1 are now debunking that theory. Sediment analysis and dating of layers that contained stone tools indicate that humans did in fact occupy the area 150,000 years ago, when it was blanketed in thick rainforest.

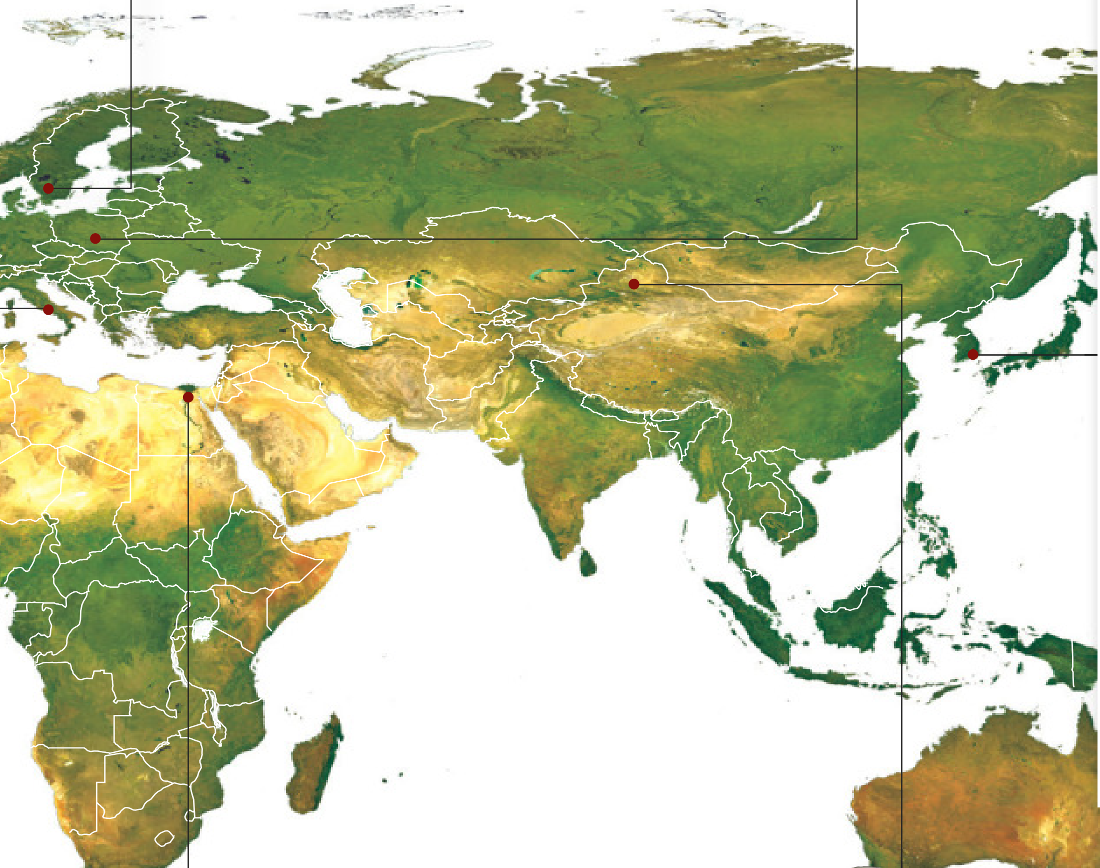


ITALY: The emperor Nero spared no expense building and decorating his colossal palace, the Domus Aurea, or Golden House, in the 1st century A.D. Recent excavations in workshops connected with construction of the property have uncovered a rare and extremely valuable 6-pound lump of a pigment known as Egyptian blue, which painters used to create the palace's vivid frescoes. The vibrant material, which does not occur naturally, had to be created by heating and mixing silica and limestone with minerals containing copper and sodium carbonate.



SWEDEN: Life during the Viking Age wasn't all sailing and plundering; it had its downsides, one of which was the risk of contracting a debilitating oral or maxillofacial disease. CT scans of 15 skulls from individuals buried at a cemetery in the town of Varnhem between the 10th and 12th centuries show marks on the bones indicating that many of the people had untreated ear or sinus infections. Other crania and jawbones displayed evidence of osteoarthritis and various dental diseases. Ouch!

POLAND: Some Iron Age jewelry was truly out of this world. A study analyzed 26 iron objects found outside the city of Częstochowa in burials belonging to the Lusatian culture and dating to between 750 and 600 B.C. X-ray fluorescence and scanning electron microscopy determined that 5 artifacts—3 bracelets, an ankle ring, and a pin—had been made from a single rare type of meteorite. Someone likely witnessed the meteorite fall to Earth, collected pieces of the celestial projectile, and mixed them with smelted terrestrial ore to make jewelry.



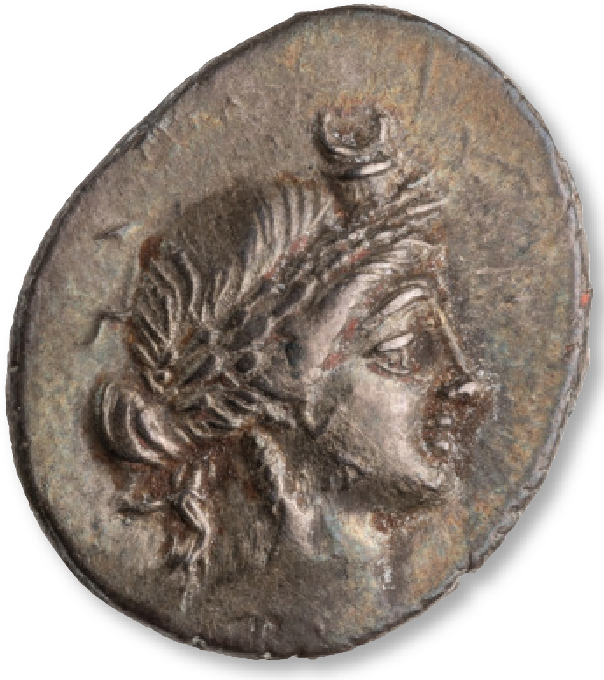
SOUTH KOREA: It's a royal flush. Archaeologists unearthed a first-of-its-kind flush toilet at the Donggung Palace in the city of Gyeongju. The sprawling royal complex was built in A.D. 674 and was home to the prince of Silla, a kingdom that ruled Korea in the first millennium A.D. Archaeologists uncovered several toilets. Given the location and sophisticated design of one of them, they believe it was used by the crown prince himself. This was a special type of toilet into which a servant would pour water to flush waste through a channel that led directly into a nearby river.

EGYPT: Ever wondered what mummified bodies smelled like? For the first time, mummy odor has been investigated using sensory technology. The results show that the aroma was woody, spicy, and sweet. The scientists used gas chromatography and mass spectrometry to analyze scent molecules emitted from 9 bodies in the Egyptian Museum. The pleasant odors were a product of coniferous oils and resins such as pine, cedar, and juniper and gum resins including frankincense and myrrh that were employed during the mummification process.

CHINA: A mysterious woman dubbed the "Red Princess of the Silk Road" was buried at the site of Shengjindian in the Turfan Basin around 2,000 years ago. Her teeth were stained red with cinnabar, a toxic mineral. Although many ancient cultures used cinnabar for decorative, artistic, and medicinal purposes, this is the first documented case of the substance being applied to human teeth. The reason for this highly unusual dental work is unknown, although experts note that the color red has been closely linked to elite status and shamanic rituals across the globe.

AS EARLY AS THE SECOND century B.C., residents of the city of Stratonicea in western Anatolia honored their patron goddess Hecate, a deity of magic and transitions, with the annual Festival of the Key. This celebration, which was unique to Stratonicea, began with a six-mile-long procession in which a key was carried to the city from a temple dedicated to Hecate in the neighboring town of Lagina. This is the only known temple devoted solely to the goddess. The procession then returned to Lagina through pine forests and past spring-fed reservoirs. Afterward, onlookers from Stratonicea and nearby villages streamed through a monumental arched gateway into the sanctuary for a day of music, prayers, and sacrifices of cattle or sheep on a marble altar in front of the temple. Spectators sat on steps to watch the festivities and partake in an abundant feast. Small groups of worshippers were admitted to the temple's interior to place bunches of grapes or libations of wine in a subterranean pit as an offering to Hecate. "Her priesthood is one of the most important in the city," says art historian Amanda Herring of Loyola Marymount University. "The richest, most elite families are part of her cult, and her rituals are part of their calendar."

Each year, a married couple serving as priest and priestess of Hecate would appoint an unmarried daughter, or another young girl from the community, to carry the key in the procession. Although this key may not have been the actual key to the temple, it was a symbol of the goddess' role as key bearer to the underworld, a function described in many Greek and Roman texts. "Being selected as key bearer was something people were very proud of," says historian Christina Williamson of the University of Groningen. "It was about making young girls visible within the community."



A second-century B.C. silver drachma minted in Stratonicea features a portrait of the goddess Hecate, one of the city's patron deities, with a crescent moon above her head.

Across the Mediterranean, artists often depicted Hecate with three heads and mounted her likeness on poles at the intersections of roads. A second-century A.D. statuette, for instance, casts her in the form of three young girls standing around a central column and facing different directions. "Crossroads were places known for robbers and thieves," Herring says. "But I think on a more metaphysical level, they're associated with the scary parts of life: with change, transition, and trying to come to terms with facing the unknown."

Appeals to the goddess were also made for darker reasons.

GODDESS

Why a city put its trust in a

The city of Stratonicea, founded in the third century B.C. in the western Anatolian region of Caria, became a thriving center of trade and religious activity. Stratonicea included a large gymnasium, a bathhouse, colonnaded streets, and a bouleuterion, or council chamber.

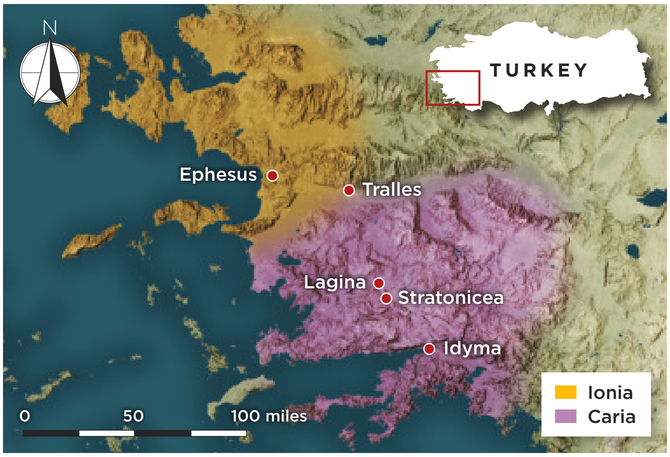
Inscriptions on a collection of fourth-century B.C. lead tablets discovered near Athens call upon Hecate and other deities to curse several people, likely rival tavern owners. Papyri containing Greek magical texts found in eastern Egypt dating to the fourth century A.D. detail other curses invoking the goddess. One of these curses contains instructions to carve a three-faced Hecate into a piece of lodestone, a naturally magnetized mineral. After prescribing multiple steps that include dipping the stone "in the blood of one who has died a violent death," the curse calls for offering food to the Hecate carving while reciting a spell. In his epic poem *Pharsalia*, the first-century A.D. Roman poet Lucan describes Hecate as a guardian of liminal spaces whose flesh is decaying, requiring her to wear a mask in the presence of the gods of Mount Olympus. "One of the ways classical texts describe Hecate and goddesses like her is 'the dread goddess,'" Herring says. "They're powerful, they're beautiful, and they're scary all at the same time."

Yet epigraphic, iconographic, and archaeological evidence discovered in Stratonicea and its immediate environs does not include depictions of Hecate's more fearsome attributes.

AT THE CROSSROADS

Greek deity feared throughout the Mediterranean world

By Durrie Bouscaren



Instead, the Stratoniceans beseeched her to protect them. On friezes that adorned her temple in Lagina, she is portrayed not as a frightening three-faced being but as a benevolent deity participating in central episodes from Greco-Roman mythology. "Hecate is very much worshipped in her rites, her rituals, and her iconography as patron of Stratonicea," Herring says. "She protects the city. She's Hecate Soteira, or 'the savior.'"

At the end of the second millennium B.C., Greeks settled in the region of Ionia on Anatolia's western coast, and soon began to colonize other coastal regions, establishing city-states and expanding their influence deep into western Asia. This area of Anatolia grew into a patchwork of ethnically diverse communities ruled by rival kings. One of these territories under shifting control was the region of Caria, bounded by the Aegean Sea to the west and the Taurus Mountains to the east. Stratonicea was likely founded on the site of an existing settlement. It would eventually become a major commercial and religious center, making it strategically important to the many empires that sought to conquer the region.

Many scholars believe that worship of Hecate originated in Caria and that she was an adaptation of a local Anatolian goddess. However, it's difficult for archaeologists to distinguish these possible Anatolian roots from characteristics introduced later by the Greek settlers who colonized Caria. The cult of Hecate at Lagina likely predates the founding of Stratonicea. Ongoing excavations led by archaeologist Bilal Söğüt of Pamukkale University have uncovered pottery sherds at the temple dating to the Geometric Period (900–700 B.C.) and terracotta figurines burned as offerings in the fourth century B.C. "Based on oral histories, small finds, and my own guesses, there was a cult here, at least during the Archaic period, from the eighth to the sixth century B.C.," Söğüt says. "Hecate is certainly a Carian goddess."

The first mention of Hecate in ancient literature appears in Hesiod's *Theogony*, an eighth-century B.C. poem explaining the origins of various Greek gods. Hesiod portrays her as the deity whom Zeus honors above all. The only child of two Titans, Asteria and Perses, Hecate is described as aiding men in battle and acting as a nurse to the young. In the fifth century B.C., the Greek tragedian Sophocles created female characters who invoke Hecate as they prepare magical herbal remedies. "She shows up so early in our Greek sources that she must have been a thoroughly Hellenized goddess at a fairly early period," says classicist Sarah Iles Johnston of the Ohio State University.

In Greek cities far from Caria, travelers and local followers left eggs, cakes, and other small treats near Hecate's streetside shrines or outside the thresholds of their homes on the night of the new moon. The first-century A.D. philosopher Plutarch describes these offerings as "suppers for Hecate," intended to safeguard homes from evil forces or those who "longed for vengeance." Other contemporaneous writers mention that the meals were often consumed by those in need, but that it was probably bad luck to do so.

Many families carved inscriptions near the front doors of their houses invoking Hecate to keep demons away and appear to have kept small figurines of the goddess. "She shows up more often than most people realize," Johnston says. "If you're seeing her name every single day, it gets to the point where maybe you don't really consciously see it anymore. She's part of your mentality as someone who is protecting you."

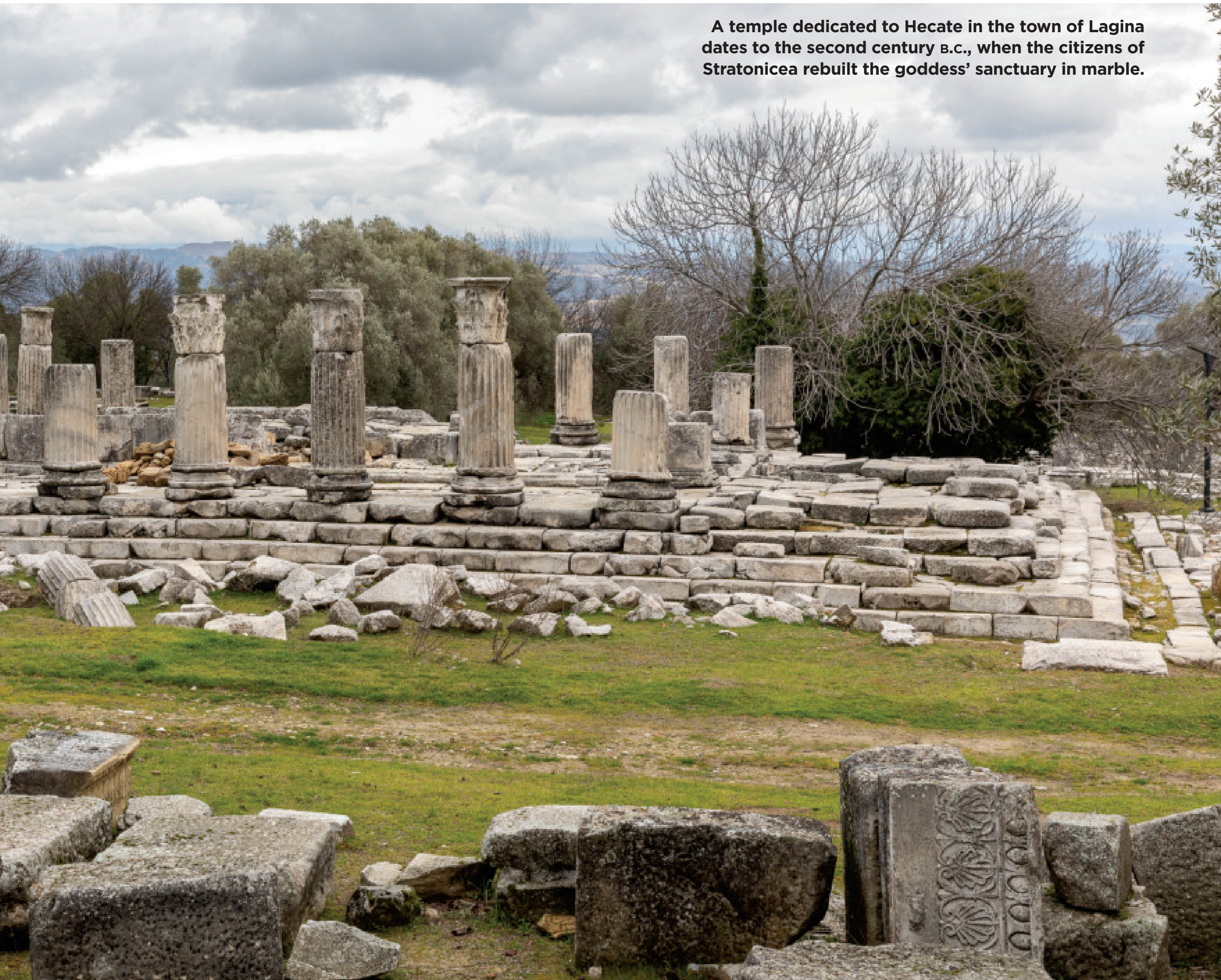
The goddess' role as a protector over the transition to

the new month expanded to include all types of transitions, particularly for women. Women prayed to Hecate for help conceiving and while going into labor or caring for children. More broadly, she was believed to assist in the transition from death to the afterlife, and to help ward off ghosts and demons. "Hecate oversees both the creation of life and what happens after death," Herring says. "That's a huge power." The goddess is depicted on Greek vases as a young maiden carrying two torches, a reference to her role in guiding Persephone, daughter of the goddess of agriculture, Demeter, back from the underworld each spring.

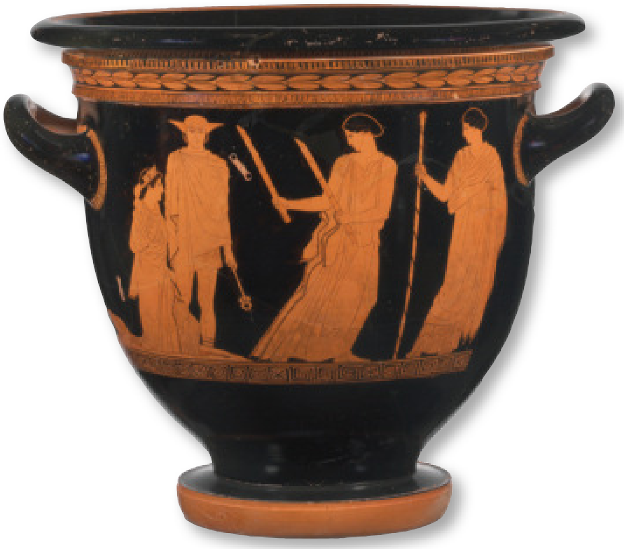
Hecate's protective powers were largely confined to the domestic sphere, Herring notes. Outside Stratonicea, it seems that Greeks did not revere her as a major deity. Instead, they relegated her worship to altars in the temples of more popular gods, such as Apollo. "So much of what we know about Greek religion is because of what has survived," Herring says. This includes inscriptions describing state-sponsored festivals. "The more personal, domestic religion that people are practicing every day is incredibly important to them," says Herring, "but we know less about it." Only at Stratonicea did Hecate's role expand into a formalized position as the patron goddess of a Greek city and the figurehead of a cult. Historians and archaeologists are just beginning to understand why.

Stratonicea's particular view of Hecate may reflect the city's tumultuous history. The Carians were accomplished seafarers who followed their own religious traditions, often centered around a sun goddess and a male god of storms, water, and fertility. By the fifth century B.C., Carian villages had organized themselves into federations known as *koina*. These groups of villages were often situated near the Aegean coast, allowing for easy communication and trade. The villages could band together if politically necessary but were otherwise independent. Even before large-scale Greek colonization in Anatolia, many Carian settlements traded with the Greek world. Many cities also established religious sites outside their limits, which may have been the case with the Temple of Hecate at Lagina.

In the 540s B.C., Persian rulers incorporated Caria into the Achaemenid Empire (550–330 B.C.) as part of a territory known as a satrapy. Tensions simmered as Carians grew dis-



A temple dedicated to Hecate in the town of Lagina dates to the second century B.C., when the citizens of Stratonicea rebuilt the goddess' sanctuary in marble.



A fifth-century B.C. Greek vase depicts Hecate holding two torches (center), the god Hermes with the goddess Persephone (left), and Persephone's mother, the goddess Demeter (right). Hecate is leading Persephone out of the underworld.

satisfied with the rulers appointed to oversee them. From 499 to 493 B.C., Carian cities joined other Greek cities along the coast in the unsuccessful Ionian Revolt against the Persians.

Alexander the Great took Caria from the Achaemenids in the fourth century B.C. and incorporated the region into the Macedonian Empire. After Alexander's untimely death, a series of conflicts broke out across Anatolia, Persia, and North Africa as his generals jostled for power. Caria came under the control of the Seleucids, a dynasty of Macedonian royals who succeeded Alexander. An inscription found at Stratonicea shows that, at some point in the third century B.C., one of the Seleucid kings, perhaps Antiochus I or II, founded the city of Stratonicea. Lagina and other nearby settlements were incorporated into the city's boundaries.

The ensuing centuries were chaotic for Caria, as various Hellenistic dynasties jockeyed for control of the region. Rhodes, a large maritime power centered on a nearby island in the Aegean, seized Stratonicea from the Seleucids during the third century B.C. They then lost the city, retook it, and held it from 197 to 167 B.C. "This part of the world is being passed around from king to king and there are multiple wars," Herring says. "Then the Romans come in."

Stratonicea found itself conveniently situated along a lucrative trade and pilgrimage route. This, suggests Williamson, fits well with Hecate's purview over transitions and crossroads. "When the first-century B.C. geographer Strabo mentions how large Caria is, he uses Lagina as a measuring point," she says. "I can easily imagine that this became a place of cult because it was an important crossroads." The road that passed through Lagina connected the city of Idyma on the Bay of Ceramus to the city of Tralles in the Meander Valley. Pilgrims would have continued north after making their devotions at Lagina, traveling to other important sanctuaries such as the Temple of Artemis in Ephesus.

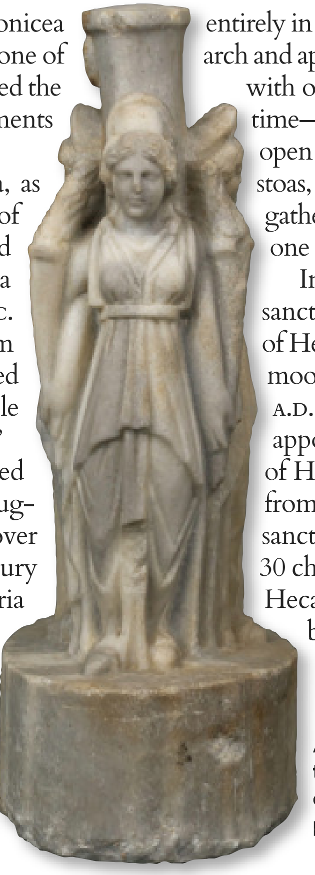
In the late second century B.C., the citizens of Stratonicea reached a level of prosperity that allowed them to rebuild Hecate's sanctuary. Herring and other scholars believe that Stratonicea was a free city at this point, under the Romans' protection. Perhaps the Stratoniceans had grown wealthy because they no longer had to pay taxes to Rhodian rulers. Williamson suggests that they may have undertaken the sanctuary renovations to assert themselves politically while reaping the economic benefit of attracting religious pilgrims. Coins minted at Stratonicea at this time present Hecate as an emblem of the city, wearing a crown with a crescent moon rising over her forehead.

Archaeologists led by Söğüt have mapped the structures and surrounding walls that made up the second-century B.C. sanctuary. They have also begun to restore the foundations, walls, and arches to their original locations. This is no easy feat, as Lagina was leveled by an earthquake in the second century A.D. "We're carrying out both excavation and restoration work," Söğüt says. "We now know the boundaries of the sanctuary and most of the structures within it." Under the floor of the temple's inner sanctum, archaeologists have found hundreds of coins and fortune-telling stones, as well as small gold disks worn on clothing. These ornaments appear to have been offerings brought to the earlier temple, which probably dates to the fourth century B.C. The offerings were left in place and sealed in when the ground was prepared for the new temple.

The residents of Stratonicea built Hecate's new sanctuary entirely in marble. Visitors would have entered through a tall arch and approached the temple. Corinthian columns topped with ornate acanthus leaf capitals—a novel design at the time—adorned the temple's facade. Enclosing a large open space with the temple at the center were long stoas, or covered walkways. In this space, worshippers gathered for festivals and sat on stone steps in front of one of the stoas to watch performances.

In addition to the Festival of the Key, the grand sanctuary hosted several other celebrations in honor of Hecate, including one held on the night of the new moon. An inscription dating to the second century A.D. describes the creation of two children's choirs appointed to sing hymns to the goddess. The priest of Hecate is instructed to select the singers each year from families living "within the boundaries of the sanctuary." In Stratonicea, the inscription continues, 30 children should be chosen to sing in honor of both Hecate and Zeus, the city's other patron deity, in the bouleuterion, or council chamber.

All four sides of the temple were decorated



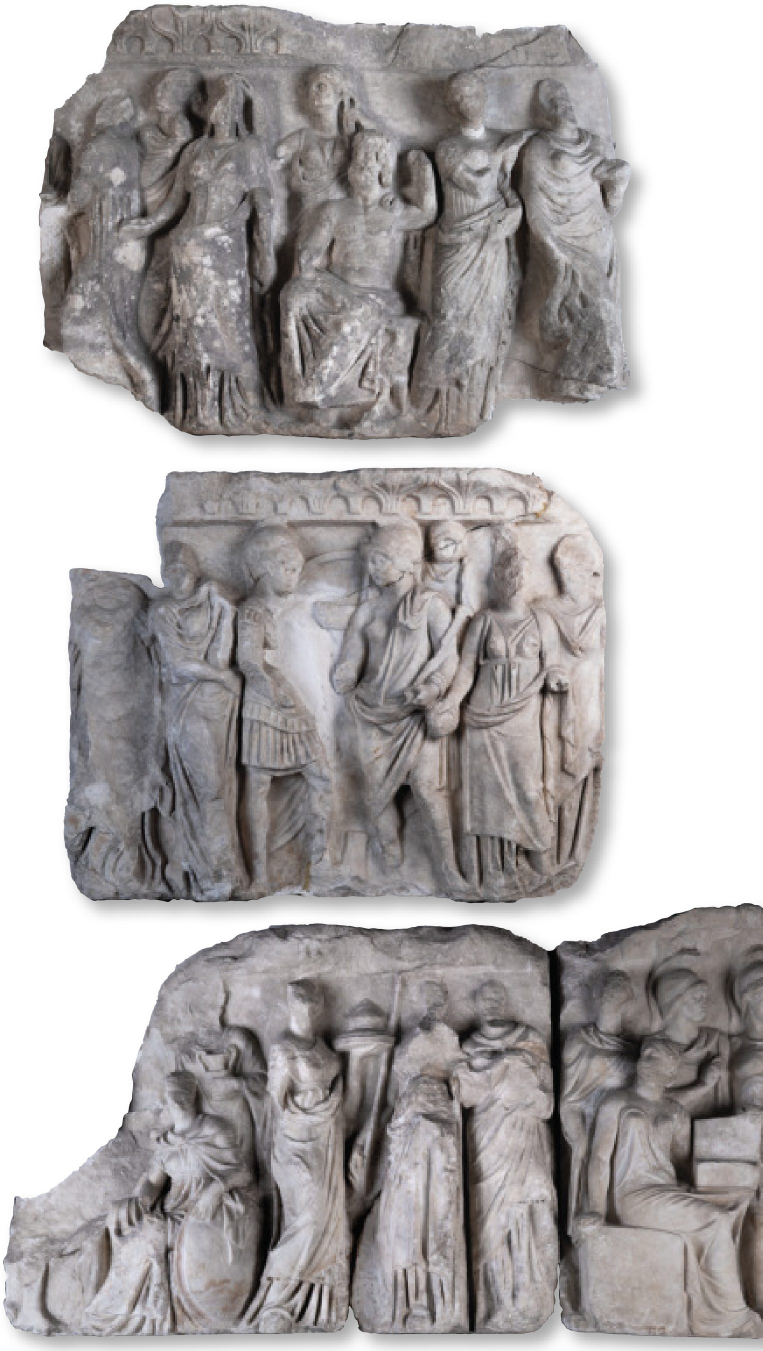
A second-century A.D. marble statuette depicts three young women with their backs to a central column, representing a three-bodied Hecate, a popular form of the goddess.

with friezes featuring Hecate, only sections of which survive. On one frieze, Hecate is depicted in a billowing cloak at the center of several figures. She is shown carrying a bundled stone to the Titan Cronus, which he will swallow, believing it to be his newborn son, Zeus. In Greek mythology, this event saved Zeus’ life, allowing him to grow up and eventually challenge his father’s rule. Only at Lagina is Hecate positioned at the center of the scene as a primary actor in this pivotal moment. Another frieze shows Hecate taking up arms with the Olympian gods in their fight against the Giants for supremacy over humankind. “She helps in the birth of Zeus. She’s fighting with the gods,” Herring says. “These are all things that powerful gods do.”

Yet another frieze portrays Hecate overseeing a meeting between Greek soldiers and Amazons. In the scene, the goddess Roma, who personifies the capital of the Roman Republic, observes Hecate pouring a libation as the former adversaries shake hands in agreement. By presiding over this treaty, Hecate acts as a protector of Stratonicea’s population who negotiates on their behalf to form alliances. While some archaeologists have argued that this scene is an allegory for a specific alliance or peace treaty between Rome and the Carians, Herring interprets it as a general statement of loyalty to Rome. This frieze was probably installed at the time the Stratoniceans rebuilt the temple and would have been placed far above worshippers’ heads. It’s unlikely that the average visitor would have been able to identify any particular historical event the carvings might have depicted. “We have these Amazons, which I argue are symbols of Caria,” Herring says. “This frieze shows Caria aligning with the new Greek, and then Roman, overlords.”

How far the Romans’ protection of Stratonicea extended would be tested in the first century B.C. Between 88 and 63 B.C., the Roman Republic fought for territory with the Kingdom of Pontus, which was centered in northern Anatolia and ruled by Mithridates VI. During the Mithridatic Wars, Stratonicea was one of few cities in the region that remained allies with Rome. “It was a very turbulent period,” Williamson says. “There was a genocide against all the Romans in the Greek world. Most of the cities were on Mithridates’ side, but Stratonicea resisted.” As a reward for the Stratoniceans’ loyalty, the Roman Senate ceded additional territory to the city. It also declared the sanctuary of Hecate, which had been heavily damaged during the war, a place of asylum. This meant it was not to be targeted or plundered by an invading army. “It’s Rome acknowledging Stratonicea’s status,” Williamson says. “If you sack Lagina, you’re dealing with Rome as well.”

The Stratoniceans, in turn, created a new festival in honor of Hecate and Roma. This placed the goddesses on equal footing and pledged Stratonicea’s—and, by extension, Hecate’s—loyalty to Rome. To Herring, Hecate’s singular status at Lagina helps illustrate Anatolia’s complex political situation during the Hellenistic period. As the cultural identities of Stratonicea’s residents shifted, dedication to a goddess such as Hecate provided them with a sense of stability. “I think Hecate really speaks to how they’re navigating these changes in their lives,” says Herring. “‘Am I Stratonicean, am I Anatolian, am I Greek, am I Roman?’ Religion plays an important role in that self-definition. I think understanding this local example helps us better understand the ancient world and how complicated it was.” ■



Sections of marble friezes that once adorned Hecate’s temple in Lagina show (top) the birth of the god Zeus; (middle) Hecate, at far right, pouring a libation; and (above) the goddess Roma, seated at left with shield, overseeing the creation of a treaty.

Durrie Bouscaren *is a journalist living in Istanbul. To see more images of the temple, go to archaeology.org/hecate.*

Lost City of the Samurai

Archaeologists rediscover Ichijodani, a formidable stronghold that flourished amid medieval Japan's brutal power struggles

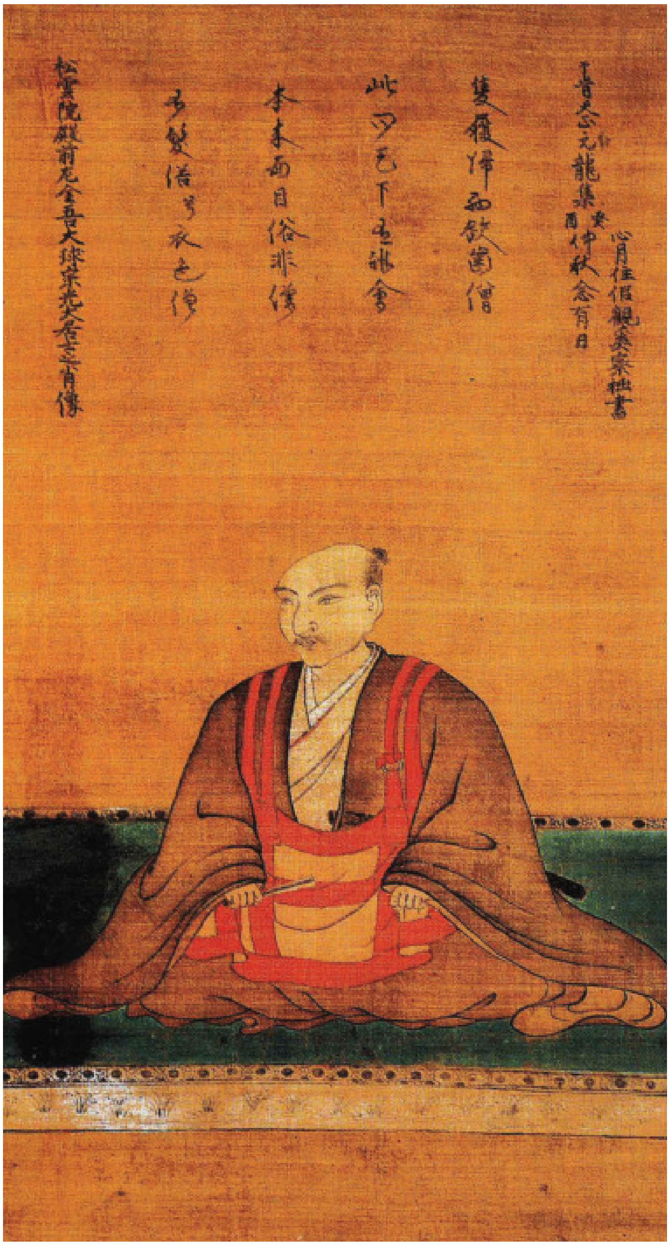
By Jason Urbanus

On the outskirts of Fukui, a city of a quarter of a million people in central Japan, a handful of shops and restaurants, a smattering of homes, and a few rice fields line the Ichijo River as it snakes its way through a narrow valley protected on three sides by mountain ranges. Locals as well as tourists enjoy the valley's scenic beauty, but on the surface there's nothing particularly noteworthy about the spot. However, a deep history lurks beneath the serene landscape. Few places in Japan are less populated today than they were five centuries ago—but the Ichijo Valley is one of them. It may be difficult to imagine that this was once the location of the lively city of Ichijodani, where events that helped alter the course of Japan's history took place.

Once a year, in August, festivals attended by thousands transform this placid valley into the thriving metropolis it was from around 1471 to 1573, when the powerful Asakura clan ruled the province of Echizen from Ichijodani, one of medieval Japan's largest cities. On festival nights, 15,000 lanterns illuminate the dark sky, reflecting what the valley may have looked like 500 years ago, when it was home to as many as 10,000 people. One of the highlights is a procession of men wearing traditional samurai armor and bearing traditional samurai arms in an homage to these elite warriors.

Under the Asakura, Ichijodani grew to rival even the imperial capital of Kyoto, the center of the nation's art and culture, which had been home to the emperor of Japan and the imperial court since A.D. 794. Though the memory of Ichijodani is

A view of the Ichijo Valley in central Japan shows a small modern settlement next to the remains of Ichijodani, one of medieval Japan's largest cities. Two swords (above) once carried by samurai have been found during excavations in Ichijodani.

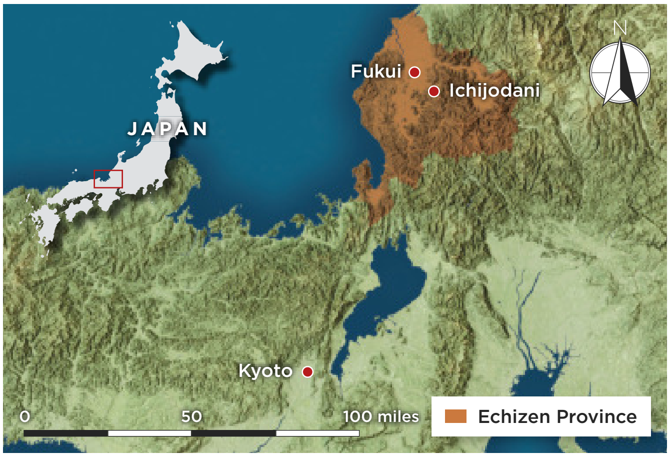


A painting depicts Yoshikage Asakura, the last daimyo, or regional warlord, of the Asakura clan.

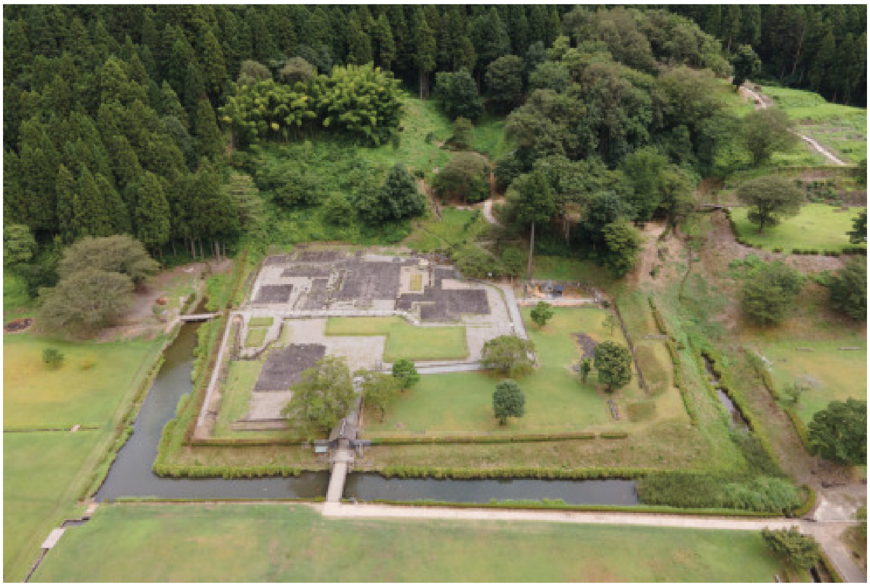
kept alive today by the festival honoring its past, there is very little mention of it in history books. History is written by the victors, as they say, and Ichijodani was on the wrong side of history. In 1573, when the city was at its zenith, it was razed by the armies of Oda Nobunaga, one of the most celebrated figures in Japanese history, who helped unify the country and bring to an end a tumultuous century known as the Sengoku or Warring States period (1473–1573).

Obscured under rice fields for 400 years, Ichijodani was only rediscovered by archaeologists in the 1960s. The city was known from medieval letters and court documents, and some Buddhist statues and stone grave markers had remained visible aboveground over the centuries. Nonetheless, archaeologists were stunned by what they encountered beneath the valley floor. The site's extent and state of preservation were incomparable; Ichijodani was a time capsule preserving a bygone era. After more than 100 excavation campaigns carried out over six decades, some of which continue today, archaeologists can finally resurrect Ichijodani's past. In the process, they have revealed the most complete picture ever formed of what life was like in a late medieval Japanese samurai city. "Ichijodani is the only site where a wide range of artifacts and archaeological features provide insights into the culture and lives of citizens and lords during the Warring States period," says Daichi Yamaguchi, curator of archaeology at the Ichijodani Asakura Family Site Museum. "The site's comprehensiveness has provided us with a wealth of materials to re-create the medieval world." Ichijodani also offers an in-depth look at the consequences of two samurai armies meeting on the battlefield—only one can claim victory.

Japanese samurai are among the world's most storied warriors. Known for their disciplined code of conduct, their deadly fighting skills, and their katanas, a type of curved sword, samurai were an integral part of Japanese culture for almost 1,000 years. They originated as lower- to middle-class servants who were hired as mercenaries by aristocrats, but eventually developed into a distinctive warrior class—one that become so powerful that samurai began to overshadow even the emperor himself. Japan's legendary first emperor, Jimmu, is said to have founded the imperial dynasty in 660 B.C. in the Yamato region of southern and central Japan. For centuries, a series of emperors expanded their territory and rule outward until, by the eighth century A.D., their domain encompassed most of the modern nation. By the twelfth century, the emperor's influence had waned as the power of the samurai increased. The first samurai shogun, a hereditary title given to Japan's top military leader, was appointed in 1192. While the emperor remained the official head of Japan's government, it was the shogun and his army of loyal samurai who actually ruled the country.



During the Warring States period, the shogun's influence weakened as well, and Japan's central government in Kyoto collapsed, leaving control of the country in the hands of ambitious regional warlords known as daimyo. The daimyo amassed armies of samurai and frequently fought among themselves in an internecine struggle to attain power and territory. The samurai



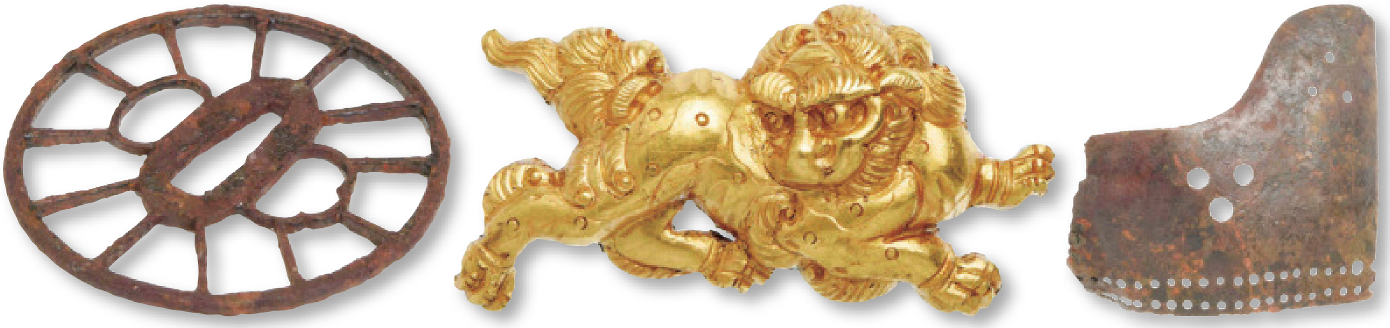
Remnants of the Asakura *yakata*, or palace, which was surrounded on three sides by a moat, are visible after excavations in Ichijodani.

who lived during this era knew only unceasing battle. At this time of anarchy, civil war, and social upheaval, some warrior families rose up and overthrew their superiors. One of these families was the Asakura.

By 1471, the Asakura, who originally served the leading family of Echizen Province, had ousted their overlords and seized control of the region. They would go on to rule the province for five generations. Persistent warfare throughout the period spurred the rise of what are known as castle towns. Initially, these were defensive fortresses, but they soon grew into administrative centers and military headquarters for the regional daimyo. The Asakura needed a castle town from which to operate and monitor their new territory. Takakage Asakura, the first head of the dynasty, looked to the Ichijo Valley, where his family had owned property for centuries, to build his castle. Although the valley's off-the-beaten-path location may have made Takakage's choice an unorthodox one, its natural advantages made it the ideal place to construct his castle town, which became one of the largest such settlements of its era. The valley is around two miles long and only about 260 feet wide at its narrowest point. It could be sealed off to intruders and protected by defensive gates at either end. Watchtowers built atop the 1,400-foot mountains that rise above the settlement would provide sweeping views in all directions and enable the Asakura daimyo to anticipate any signs of incoming danger.

The Asakura chose not to build their fortified castle in the middle of the town, as was the custom, but on a mountaintop high above the city. Even today, the site is difficult to access. Archaeologists are using airborne lidar to survey the steep terrain and locate structures concealed by dense mountain vegetation. "Lidar has proven especially helpful for studying the fortified structures around Ichijodani," says Yamaguchi. The Asakura castle was a complex of buildings and defensive features including guardhouses, embankments, earthworks, moats, and a network of more than 140 trenches, as well as residences and temples. The castle would have been nearly impossible for an advancing army to assault, and the Asakura daimyo appear to have envisioned it as a final place of refuge—for themselves—during an invasion. It is so high above Ichijodani, however, that it was ineffective in defending the city itself. This would later prove costly.

Like all Warring States daimyo, the Asakura's true strength lay in their army of vassals and retainers. "The Asakura family implemented an existing system in which samurai warriors became retainers, serving their masters while also handling administrative affairs and legal proceedings under their orders," says Yamaguchi. After taking power, Takakage ordered his samurai to relocate to Ichijodani from across Echizen Province. It's difficult to estimate how many of these warriors actually lived in the city, but contemporaneous historical records say that Asakura lords could mobilize as many as 12,000 troops. Scholars are certain, however, that the daimyo's most trusted and highest-ranking samurai lived close to their leader. Over the past few decades, archaeologists have excavated a number of samurai estates located in Ichijodani. These properties are recognizable by their expansive rectangular plots enclosed by earthen walls with gated entranceways. The compounds often contained



Samurai weaponry and armor from Ichijodani includes (left to right) a sword guard, a lion-shaped ornament, and a fragment of armor.

A gate on the site of the *yakata* was built as a tribute to Yoshikage Asakura.

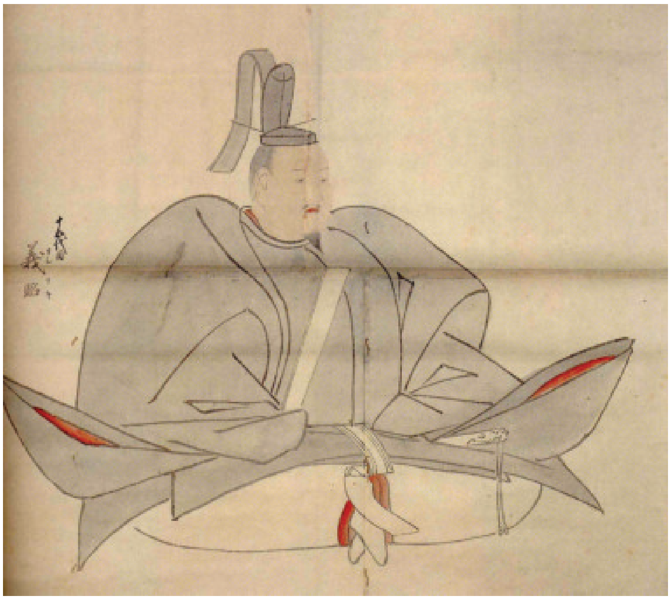
living quarters, entertainment spaces, wells, gardens, and outhouses, although not a great deal survives apart from their stone foundations. In excavations of some of these properties, archaeologists are uncovering objects of daily life that are enabling them to reconstruct the lives of the samurai. Among the artifacts they frequently find are parts of swords and pieces of armor, personal items such as combs, hairpins, mirrors, writing implements, and chopsticks. They have also unearthed coins and gaming pieces the samurai used to play the chess-like game shogi, as well as a wide variety of ceramics, including tea paraphernalia used to entertain guests.

Archaeologists have been surprised to learn how prevalent tea culture and elaborate tea ceremonies were in Ichijodani among not only the highest-ranking rulers and lords, but even among lower-ranking samurai and townspeople. “The tea ceremony is emblematic of Japanese culture. It’s very refined, very calm and meditative, and is connected to the history of the samurai in intriguing ways,” says historian Morgan Pitelka of the University of North Carolina at Chapel Hill. “Finding these types of ceramics in Kyoto isn’t surprising, because we know that’s where tea culture developed, but finding them in Ichijodani and other provincial capitals shows that this was becoming a practice spread throughout the whole archipelago.”

Discovering evidence of such high-culture objects in a provincial city such as Ichijodani may not be so out of the ordinary, however, given the circumstances of the era. The Warring States period, and especially the Onin War, a struggle for succession that began in 1467 and lasted for a decade, left much of Kyoto in ruins and forced many of its citizens to flee. Ichijodani was only a three- or four-day journey north of the capital and soon became a haven for crowds of refugee monks, artists, poets, intellectuals, and craftspeople who brought elements of Kyoto’s cosmopolitan culture with them. Ichijodani may have been a wartime city that was built as a result of the era’s martial necessities, but it grew into a diverse and bustling metropolis. During an epoch defined by chaos, Ichijodani seems to have been a model of stability and prosperity.

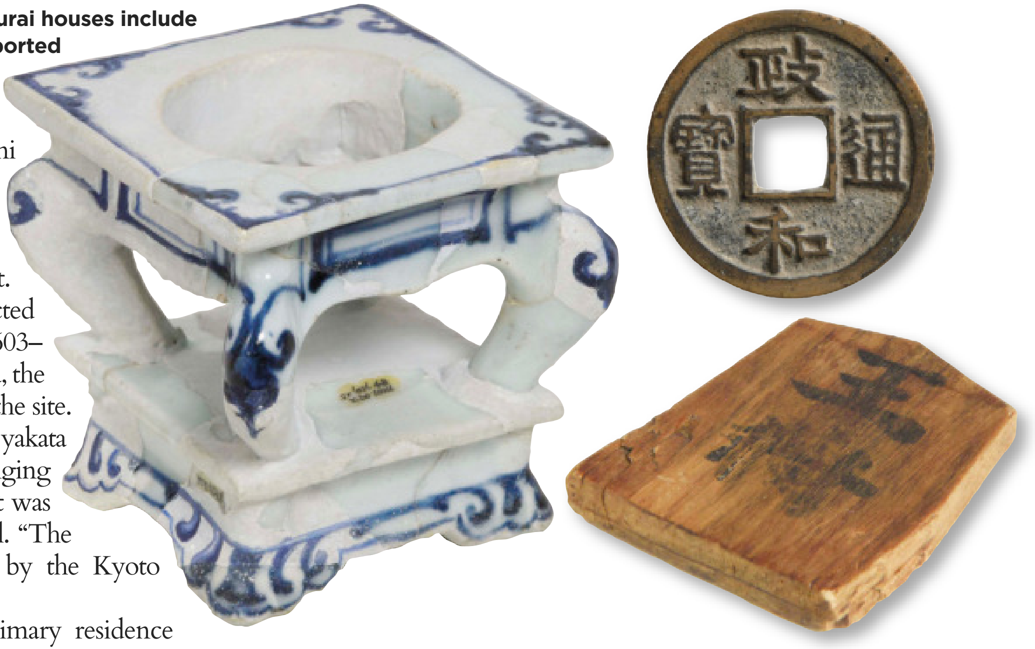
Since most Japanese cities dating to the medieval period are still occupied, it has often been difficult for archaeologists to access deep layers that might provide clues to what they looked like hundreds of years ago. Yet the circumstances surrounding Ichijodani’s destruction have made it an invaluable source of information about medieval urban life. Thus far, archaeologists have recovered more than 1.7 million artifacts, which, Yamaguchi says, provide exceptional evidence of what type of people lived in each building.

As they investigate the city, archaeologists are learning that the citizens of Ichijodani engaged in a variety of industries. There were metal casters, potters, bead makers, gunsmiths, textile dyers, lacquerers, brewers, and woodworkers. The city even had at least one resident doctor. While excavating a particular property, archaeologists found utensils for mixing and grinding medicines, as well as rare fragments of a thirteenth-century Chinese medical text. Ichijodani’s doctor and other residents would have had access to a wide range of foreign goods via river trade routes that connected the city to the Sea of Japan 20 miles away. Archaeologists have discovered evidence of infrastructure attesting to a thriving community of traders and merchants. In 2017, for example, they unearthed a section of stone pavement that might have been used to access a river port. “Due to the city’s advantageous location,” says Yamaguchi, “there was a vibrant exchange of goods and information in Ichijodani.”



A painting depicts Yoshiaki Ashikaga, heir to Japan’s shogunate, a friend and later rival of the Asakura clan.

Artifacts from several samurai houses include (clockwise from right) an imported Chinese tableware stand, a copper coin, and a gaming piece.



At the heart of Ichijodani sat the Asakura palace, or *yakata*. This enormous complex was protected on three sides by earthen walls and a moat. Today, a ceremonial gate constructed later, during the Edo period (1603–1868), to honor Yoshikage Asakura, the last Asakura daimyo, still stands at the site. Spread across 87,000 square feet, the yakata matched the size of the one belonging to the shogun in Kyoto, a fact that was unlikely to have been coincidental. “The Asakura were highly influenced by the Kyoto shogunate,” Pitelka says.

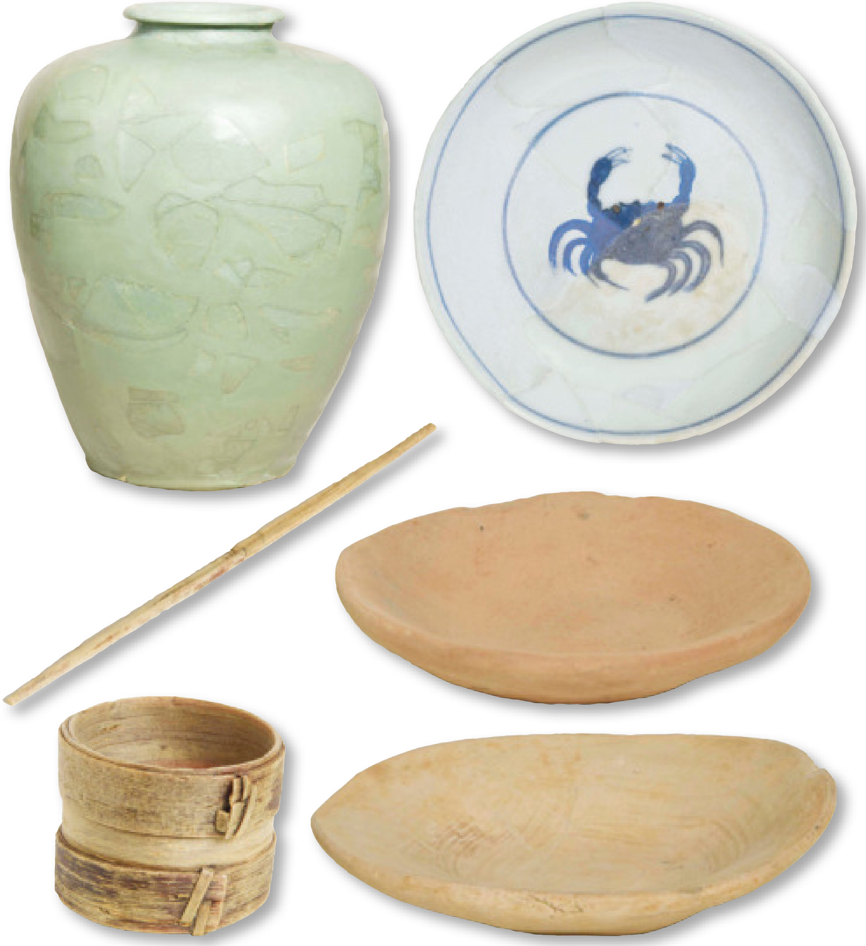
While the yakata was the primary residence of the Asakura lord—where he slept and conducted his daily activities—the sprawling complex served many other functions. Archaeologists have uncovered thousands of artifacts that reflect the public and private activities that occurred within its gates. “Excavations at the Asakura yakata have shown that there were different uses of space based on social status,” says Yamaguchi. “There were distinct areas for retainers and the Asakura family.” The complex had guardhouses, stables, parade grounds, kitchens, sleeping quarters, bathhouses, reception halls, and performance spaces. There were also four gardens, including one that contains remnants of the oldest Japanese flowerbed ever excavated.

Formal ceremonies, banquets, and feasts would have been an important part of life in the yakata, and archaeologists have unearthed many artifacts related to these events on the property. These include imported ceramics, especially from China, that must have been among the Asakura clan’s prized possessions and would have been prominently displayed throughout the residence and reserved for special occasions. Some of the more unique objects are small circular boxes called *magemono* that were made from thin strips of wood and used to serve seafood delicacies.

Archaeologists have also found an entirely different kind of pottery in great quantities throughout the yakata: small, inexpensive, unglazed earthenware dishes called *kawarake* that were sometimes used as oil lamps. “You very rarely see these objects in museums,” says Pitelka. “They’re not well documented because they’re not really special. Archaeologists are the only people who have ever really paid attention to them.” These unassuming cups played an integral role in the feasts and toasts of high-ranking samurai such as the Asakura.

A street in Ichijodani includes a workshop with ceramic vats likely used to dye textiles.

More than a ton of kawarake fragments have been found in the moat surrounding the yakata. Traditionally, these vessels were only used once, then broken and discarded. It was a special honor, and a sign of status and respect, for a host to offer a guest food or a drink in a dish that had never been used before and never would be again. Hundreds, if not thousands, of kawarake may have held food and drink at the most elaborate banquets hosted by the Asakura. “The palace was renowned for its hospitality,” says Yamaguchi. “For Warring States–period



Artifacts found in the *yakata* include (clockwise from top left) a Chinese celadon vase, a Chinese blue-and-white porcelain bowl, ceramic dishes called *kawarake*, a small box for serving seafood called a *magemono*, and a chopstick.

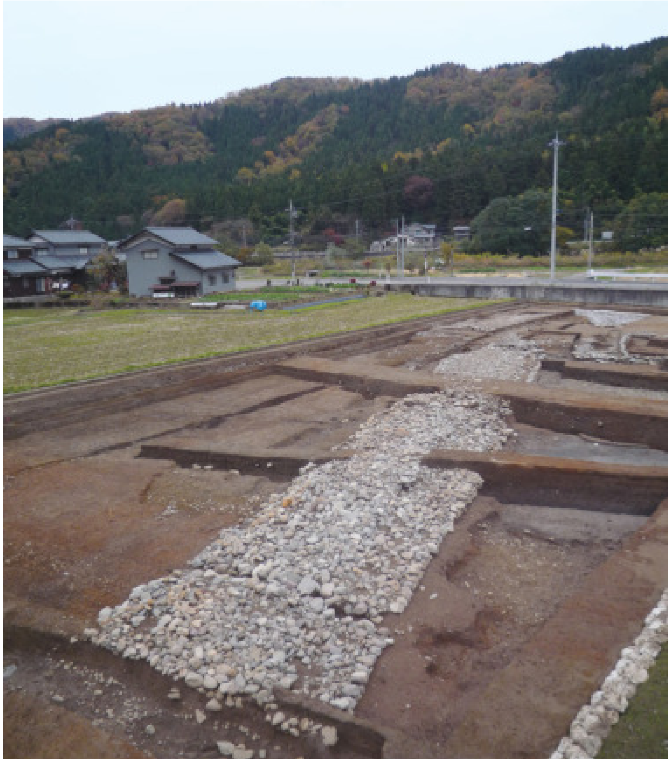
daimyo, demonstrating generosity and hospitality was essential to maintaining prestige." The Asakura household's generosity would be on full display beginning in 1567. At this time, Yoshikage welcomed his most illustrious guest: Yoshiaki Ashikaga, the heir to the shogunate in Kyoto.

Members of Yoshiaki's clan, the Ashikaga, had served as shoguns since 1336. However, his family had lost much of its influence during the Warring States period, and in 1565, Yoshiteru Ashikaga, the reigning shogun and Yoshiaki's brother, was assassinated. This forced the young heir to flee to the provinces. "I think Yoshiaki probably said, 'Where can I go without exposing myself to the possibility of kidnapping or murder? What's not too far away, and where do I have people who have shown support for my family in the past?'" says Pitelka. He chose Ichijodani.

For nine months, Yoshiaki lived in a temple compound just outside the city's southern gate. During his stay, Yoshikage hosted him at various social events, none more important than Yoshiaki's *genpuku*, or coming-of-age ceremony, which took place at the yakata. This would have been an ostentatious display attended by as many as 200 guests. Toasts would have been made, food consumed, and gifts such as long swords, suits of armor, and horses exchanged. Hosting the genpuku was a sign that the Asakura clan's influence was growing. Ichijodani's future appeared bright. But just five years later, the city was erased from existence.

For reasons that scholars still do not fully understand, a short time after the genpuku, a rift developed between the presumptive shogun and Yoshikage. Having gained momentum during his residence in Ichijodani, Yoshiaki departed the city and planned to return to Kyoto to establish himself as the rightful shogun. He asked Yoshikage to join him on his campaign, but the Asakura lord refused. The young heir turned to another powerful daimyo, Oda Nobunaga, a ruthless military leader who had risen up from his origins in nearby Owari Province and was fast becoming the most powerful warlord in Japan. Nobunaga did, in fact, help restore Yoshiaki as shogun, yet his ambitions knew few limits. Nobunaga's influence became so great that the new shogun became his puppet. But that wasn't enough for Nobunaga. "He wants to be the guy in charge," says Pitelka, "so he starts to emerge as this tyrant."

Daimyo across Japan, including the Asakura, formed an alliance to counter Nobunaga and his army of supporters. "To put it very bluntly, they

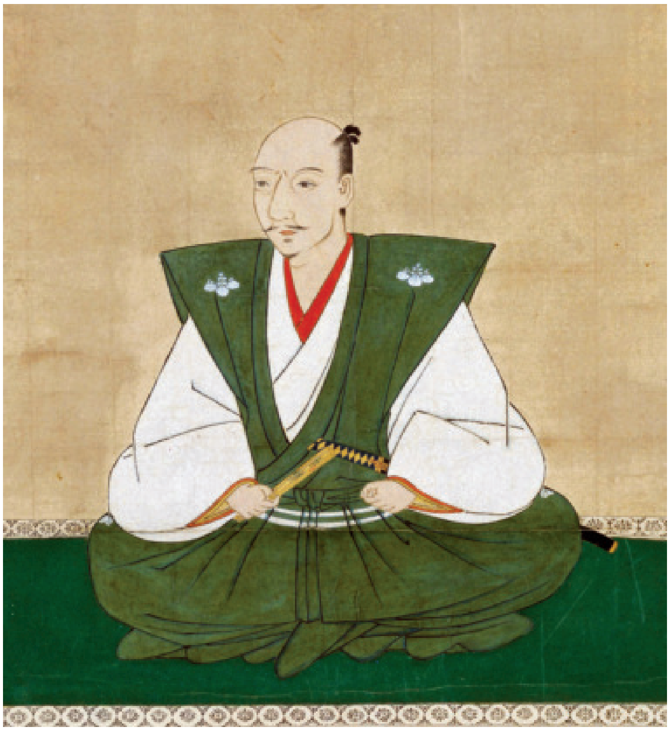


Remnants of stone pavement that was probably part of a loading dock have been found at Ichijodani's river port.

The oldest known flower bed in Japan (left) and another garden (right) were part of the Asakura family's estates.

chose a side," says Pitelka, "and they chose wrong." Nobunaga resolved to eliminate the Asakura and their allies. After a series of clashes over three years, his forces inflicted a decisive blow against Yoshikage in 1573 at the Battle of Tonezaka, around 30 miles from Ichijodani. With his army scattered, Yoshikage fled to his capital city, but remained there only a day before retreating farther inland.

Nobunaga pursued Yoshikage's trail to Ichijodani, not knowing that he was already gone. At this point, the city would have had few defenders, and Nobunaga showed little restraint. On August 18, 1573, his forces torched the city. "Archaeological evidence of fire has been discovered everywhere," Yamaguchi says. "During excavations of the yakata, layers of burned soil were found directly above each archaeological feature, and foundation stones and paving stones were all visibly burned red." The people trapped in the city must have panicked and many of them perished. "It was just a bloodbath," says Pitelka. Contemporaneous sources say that the fire burned for three days, after which there was nothing and nobody left—no houses, no shops, no townspeople, no samurai. Over the ensuing centuries, the Ichijo Valley reverted to a sleepy and idyllic landscape. Ichijodani was buried and largely forgotten.



A painting depicts Oda Nobunaga, the powerful daimyo who conquered the Asakura and Ichijodani.

Shattered and betrayed by those close to him, Yoshikage committed *seppuku*, or ritual suicide, essentially ending the long-distinguished line of Asakura samurai. "There were many moments in the years leading up to their destruction when things could have gone the other way for the Asakura," says Pitelka. "If one major battle had gone against Nobunaga, they would have been betting on the right horse—and the entire history of Japan would have been different." Instead, Ichijodani was fated to become a footnote in the annals of history, a casualty of the march toward Japanese unification. Nobunaga ultimately deposed Yoshiaki as shogun and forced him into exile, ending the Ashikaga shogunate's 237-year rule.

Nobunaga and his two successors, Hideyoshi Toyotomi and Ieyasu Tokugawa, brought to a close more than a century of unrelenting war by conquering and unifying Japan. In 1603, Tokugawa reestablished the shogunate, which his heirs would control for next 265 years, until the late nineteenth century, when the modern Japanese government abolished the title of shogun and the entire samurai class. So ended the Age of the Samurai. ■

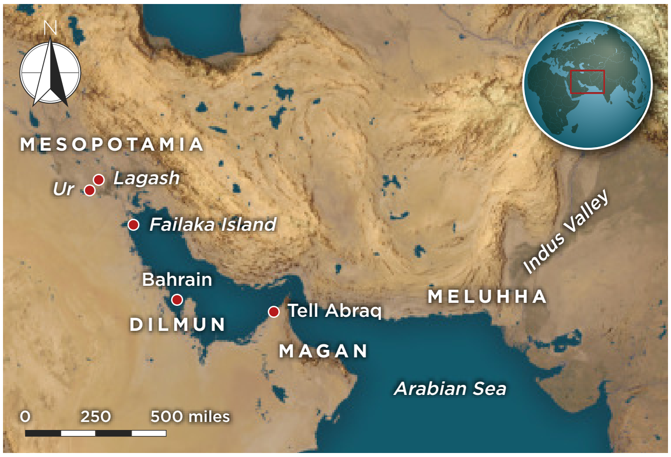
Jason Urbanus *is a contributing editor at* ARCHAEOLOGY.

Desert Paradise Found

How a tiny, water-rich kingdom came to dominate vital trade routes in the Arabian Gulf 4,000 years ago

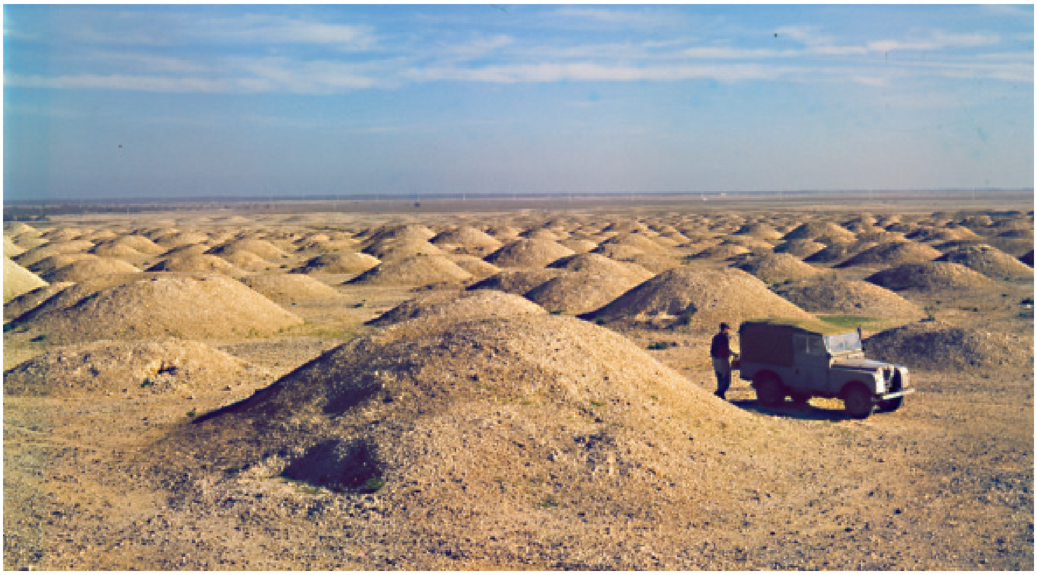
By Daniel Weiss

Some of the earliest texts from Mesopotamia describe a paradise called Dilmun. These accounts, written in the late fourth millennium B.C., tell of a place far off in the middle of the sea where fresh water flows from the ground, where people live free of sickness and threats from wild animals, and never grow old. The mythical hero Gilgamesh was said to have traveled to Dilmun as part of his quest for eternal life and to have met a survivor of the great flood who had been granted immortality by the gods. From early on, Dilmun was also associated with sources of copper, a material coveted by the Mesopotamians to make bronze for their tools and artworks. By the mid-third millennium B.C., it's clear from Mesopotamian texts that this version of Dilmun, a society of merchants who pur-


N
MESOPOTAMIA
Ur
Lagash
Failaka Island
Bahrain
DILMUN
Tell Abraq
MAGAN
MELUHHA
Indus Valley
Arabian Sea
0
250
500 miles

Ruins of the capital city of Dilmun, on the island of Bahrain, are visible alongside a fort dating to the sixteenth century A.D. Dilmun founded its capital around 2000 B.C., when it increasingly dominated trade between Mesopotamia and lands to the east.

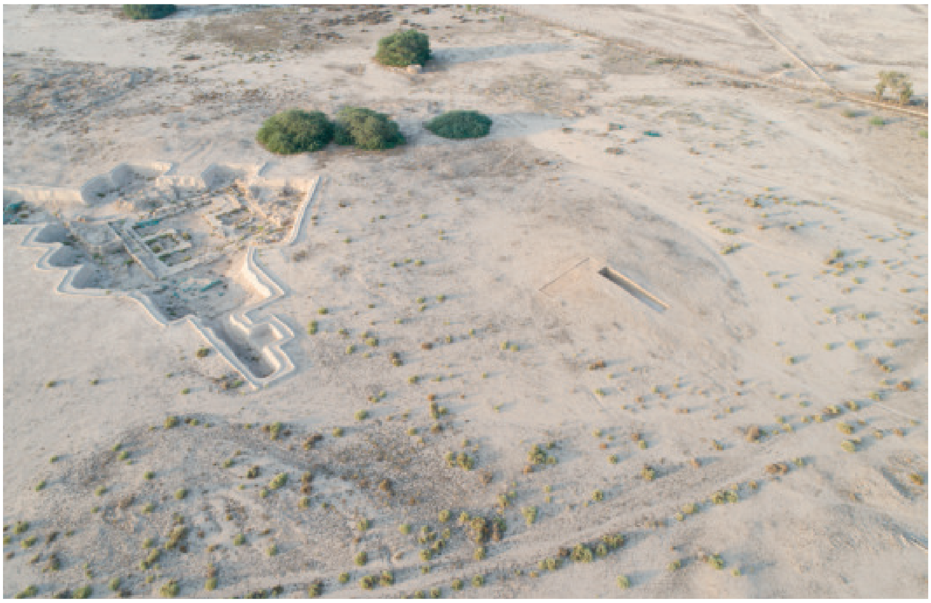
veyed valuable goods, actually existed. In a triumphant inscription, the world's first emperor, Sargon (reigned ca. 2340–2285 B.C.), founder of the Akkadian Empire, boasts that he has forged trade relations with Dilmun as well as two other far-off lands, Magan and Meluhha, and made their ships dock at Agade, his capital city, in present-day northern Iraq. Over the next few centuries, Dilmun would assume an increasingly important role in trade with Mesopotamia.



Burial mounds on Bahrain where Dilmunites buried their dead covered 13 square miles of the island. Scholars believe there may once have been between 100,000 and 175,000 such mounds.

The center of Dilmun is thought to have originally been based on the Gulf coast of what is now Saudi Arabia and to have later shifted to today's island of Bahrain. Dilmunites didn't produce exotic items themselves, but rather served as intermediaries between Mesopotamia and Magan and Meluhha. The people of Magan, in the mountains of today's northern Oman, were prolific copper smelters. The land also had an abundance of diorite, the black stone Mesopotamians used to sculpt their fine statues. "Mesopotamia was an agricultural society that produced lots of foodstuffs and textiles in an area that had no resources in terms of metal and things used to make jewelry," says archaeologist Flemming Højlund, formerly of the Moesgaard Museum. Meluhha, in the Indus Valley of present-day India and Pakistan, was a source of ivory, gold, beads, special types of wood, and lapis lazuli, itself imported from northeastern Afghanistan. "Dilmun was a trading culture that existed between much larger civilizations that had a need for things they couldn't produce themselves," Højlund says. A sense of the scale of this trade can be gleaned from late third-millennium B.C. taxation records indicating that millions of sheep were delivered each year to Mesopotamian workshops near the coast of the Arabian Gulf, where some 10,000 workers produced textiles for export.

There was, however, one invaluable resource in which Dilmun was extremely rich. The Saudi coast and Bahrain in particular were endowed with plentiful artesian springs that welled up with generous supplies of fresh water on land—and even in the surrounding sea. The Dilmunites took advantage of these springs to cultivate dates and other crops. Dilmun's copious supply of fresh water likely explains how Mesopotamians came to associate it with a mythical paradise. "The concept of Dilmun is probably very, very ancient in Mesopotamian ideology and may even go back to a time before there was a real place to which they attached this idea," says Steffen Terp Laursen, an archaeologist at the Moesgaard Museum. "At some point, seafaring merchants came upon the island of Bahrain and they would have noticed that it's very unusual because it's situated in this extremely arid region but has an enormous abundance of freshwater springs. Then people would have returned and said, 'We actually found the Dilmun of the myth!'" Its access to a seemingly never-ending supply of fresh water, Laursen suggests, would allow tiny Dilmun to thrive even while the great civilizations it traded with suffered varying degrees of collapse.



An aerial view of a temple complex on Failaka Island, off the coast of Kuwait. Dilmunites set up a way station on the island around 1900 B.C. to facilitate trade with Mesopotamia.

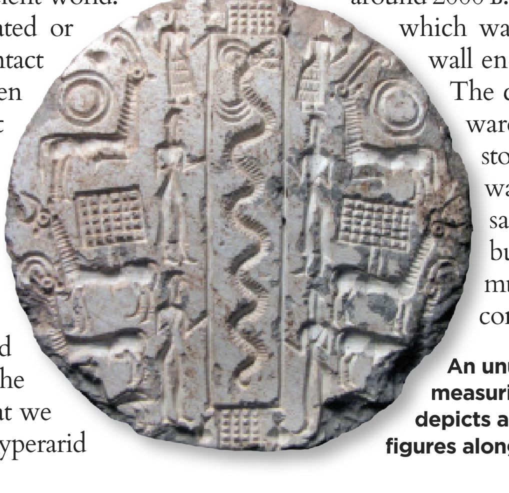
Circular stamp seals (top) used by Dilmunites to agree to contracts resemble the royal cap worn by Mesopotamian kings, seen (above) in a diorite sculpture of Gudea (reigned ca. 2150–2125 B.C.), ruler of the city-state of Lagash.

When antiquarians and early explorers first began investigating Bahrain in the nineteenth century, they found an astounding number of burial mounds in the central and northwestern portions of the island. Looking like nothing so much as an endless array of sand dunes, these mounds covered nearly 13 square miles and are estimated to have numbered between 100,000 and 175,000 in all, making up one of the largest cemeteries of the ancient world. Many of the mounds have been excavated or destroyed, but some 12,000 are still intact today. The earliest of these burials have been dated to around 2250 B.C., suggesting that at this time the population of Bahrain increased significantly. During this period, people settled on the island's northwestern coastal strip, where its springs are located. According to Laursen, the onset of a period with even less rainfall than usual, starting around 2250 B.C., which included several decades-long dry spells, was likely the impetus for the move. "I think the fact that we see burial mounds at the time when this hyperarid period starts," he says, "suggests that people migrated from the mainland to get a piece of the spring-water pie, so to speak."

After the fall of the Akkadian Empire around 2198 B.C., there is sporadic evidence of Dilmun's involvement in trade with Mesopotamia. In the city-state of Lagash, which controlled much of southern Iraq in the twenty-second century B.C., people at times dedicated bronze models of vessels that they called "Dilmun boats" to the goddess Nanshe to commemorate successful trade journeys. The next major power to rise in Mesopotamia was the Third Dynasty of Ur (ca. 2112–2004 B.C.). A cuneiform text dating to around 2028 B.C. refers to a commercial expedition bound for Dilmun. However, other texts from the Third Dynasty of Ur record that its leaders sent their own fleet of massive ships—each with a capacity of up to 180 *gur*, or more than 14,000 gallons—to trade directly with Magan and Meluhha, suggesting that Ur mostly bypassed Dilmun's services as an intermediary.

At the end of the third millennium B.C., the Third Dynasty of Ur was toppled by the armies of the Elamite people of western Iran. These events, too, says Laursen, may have been a consequence of the extended period of drought, which had lasted for more than two centuries at this point. "Ur itself doesn't rely on rainfall because it has rivers," he says. "But the fact that it suffers collapse from an attack from western Iran could easily be attributed to the fact that a lot of people have become destabilized by drought." Dilmun's leaders, whose springs continued to serve up a ready supply of water, now had a golden opportunity to take control of trade in the Arabian Gulf. They appear to have seized it with gusto. From this point on, Mesopotamian texts mention only Dilmun, not Magan or Meluhha, as the destination of trade ventures. Archaeologists have found remnants of a series of Dilmunite way stations dating to this time dotting the route from Bahrain to Tell Abraq, an important Magan trading center in today's United Arab Emirates. At these way stations, located on small offshore islands near sheltered coves, excavators have unearthed distinctive Dilmunite storage jars next to stone-lined fire pits. A large amount of Dilmunite pottery has also been found at Tell Abraq.

Growing increasingly wealthy from their newfound dominance of trade in the Gulf, Dilmun's leaders appear to have embarked on a dramatic building campaign starting around 2000 B.C. This included founding a capital city, which was surrounded by a stone fortification wall enclosing an area of more than 50 acres. The capital featured a palace and a series of warehouses with three-foot-thick walls to store vast quantities of merchandise. "Each warehouse is like a medieval church," says Højlund. "They're monumental buildings." A few miles away, the Dilmunites constructed a lofty temple. A new complex of gigantic burial mounds was

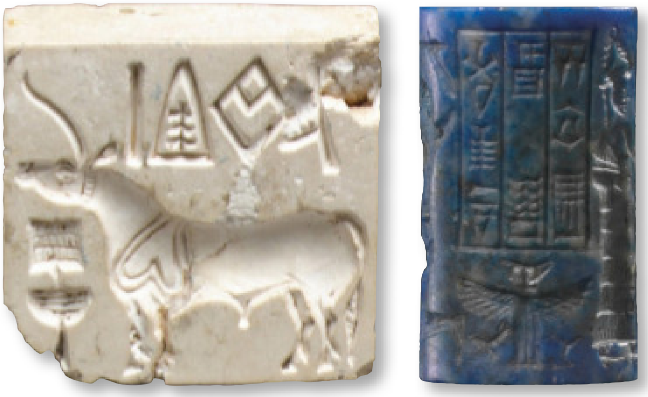


An unusually large Dilmun stamp seal, measuring around two inches in diameter, depicts a serpent on an altar with several human figures alongside it as well as a number of gazelles.

Archaeologists on Failaka Island excavated Dilmun houses, where they unearthed circular stamp seals. In all, around 600 Dilmun stamp seals have been found on the island.

inaugurated around this time as well. Thought to be where Dilmun kings were buried, the complex consisted of a quartet of stone rings, each measuring nearly 300 feet in diameter. “All of these things suggest a major transformation,” says Laursen. “The royal burials in particular indicate that we now have a full-blown kingdom.”

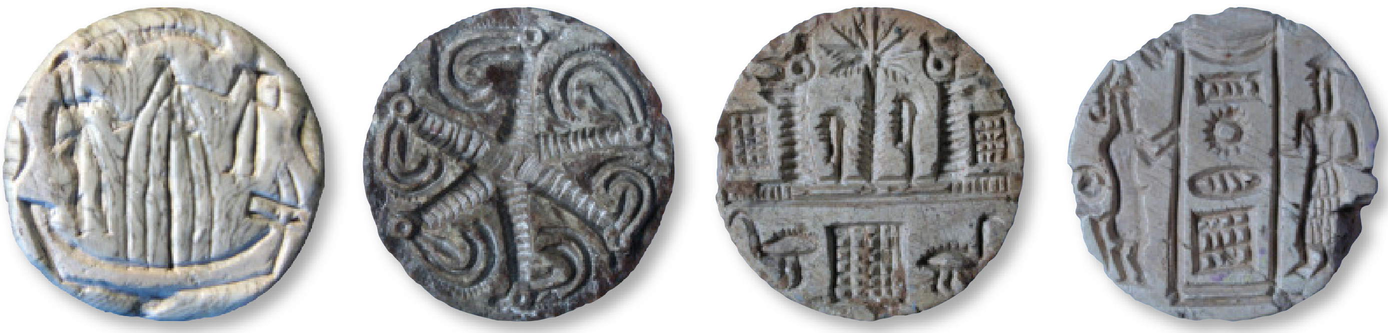
If the fall of the Third Dynasty of Ur gave Dilmun an opening to play a greater role in the Gulf trade, trouble in Meluhha may have boosted its chances of capitalizing on this opportunity. Starting around 2000 B.C., the vast Indus Valley civilization, which had once covered around 800,000 square miles—three times the size of Texas—began to disintegrate. The reasons for this are widely debated, but may have had to do with the same climatic phenomena that brought havoc to Ur. At this time, when Dilmun’s fortunes were on the rise, there is clear evidence that its traders benefited from an influx of Indus Valley merchants who introduced new administrative practices. “You can speculate that the people who brought these technologies to Bahrain were fugitives who had lost their anchor in the Indus world,” says Laursen. Among the innovations that allowed the Dilmunites to dramatically ramp up the scale of their trade operations were a system of weights and measures and the use of stamp seals. When pressed into clay, these seals made an impression that functioned as a signature on contracts or denoted ownership of goods.



A square Indus Valley stamp seal (left) and a lapis lazuli cylinder seal (right) from Mesopotamia

The techniques involved in creating the stamp seals were imported from the Indus Valley, and some of the earliest examples associated with Dilmun feature Indus Valley script as part of their design. Following the model of Indus Valley stamp seals, Dilmun artisans carved a design into the flat front side of the seal, and a domed boss protruded from the back. Dilmun seals, however, were always distinctive. Unlike the square stamp seals used in the Indus Valley or the cylindrical ones used in Mesopotamia, Dilmun’s seals were circular.

Generally measuring just an inch or so in diameter, Dilmun seals feature a wide variety of intricately carved images and scenes. There are palm branches, prancing gazelles, lyre players, skulls, stars, and crescent moons. There are pairs of people on sailing ships or sharing beverages, each with their own straw. Many of the ships that appear on seals have figureheads in the form of a serpent or dragon. The seals also commonly include scenes arranged around altars that involve people or mythological creatures worshipping deities, performing rituals, or making sacrifices. What these images meant to the people who used the seals is unclear. “I don’t think there was any individual relationship between the seal owner and the imagery on the seal,” says Højlund, adding that the images were likely selected by the seal cutter, who was a sort of priest who drew on a great



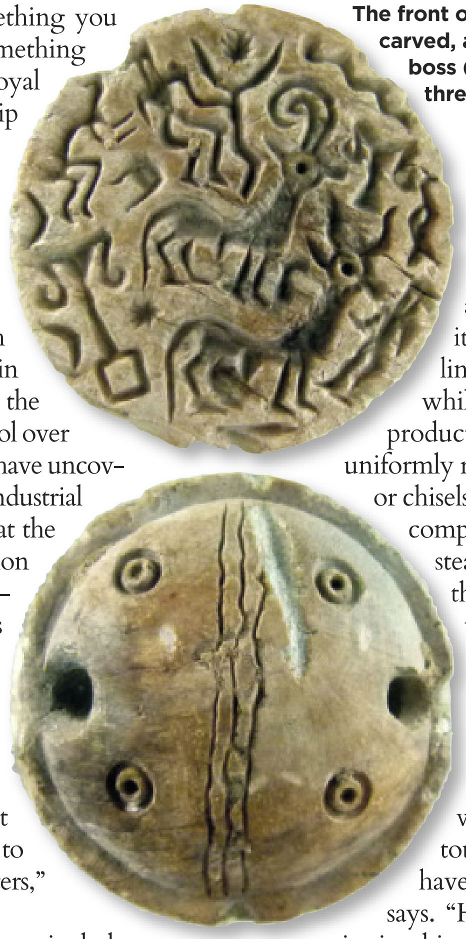
Dilmun stamp seals, which typically measure around an inch across, feature a wide range of images and scenes.

repository of myths. “The seal isn’t something you would order in a shop,” he says. “It’s something you would receive as a gift from the royal seal carver as a symbol of the relationship between the king and his people.”

Some 1,000 circular stamp seals have been found on Bahrain, and another 600 or so have been discovered on Failaka Island, off present-day Kuwait. In around 1900 B.C., the Dilmunites set up a trading post on the small crescent-shaped island, which is around 250 miles northwest of Bahrain and was then around 100 miles south of the Mesopotamian coast, tightening their control over trade in the Gulf. Archaeologists on Failaka have uncovered a temple complex, a village, and an industrial building used by Dilmunites. It appears that the island served the Dilmunites as a way station for long-distance sea trade with Mesopotamia and beyond. A set of cuneiform tablets discovered in Ur documents the activities of a Mesopotamian copper broker named Ea-nasir who was based in Dilmun around 1800 B.C. According to one tablet, Ea-nasir, who is referred to as an *ālik Tilmun*, or “Dilmun trader,” was involved with a shipment of 13,000 *minas*, or nearly 20 tons, of copper to Ur. (See “The World’s Oldest Writing: Letters,” May/June 2016.)

The number of seals found on Failaka is particularly impressive given that its population was probably in the hundreds, while Dilmunite settlements on Bahrain are thought to have been home to between 14,000 and 40,000 people. Moreover, a significant portion of the seals appear to have been lightly used, or not used at all. Højlund proposes that individuals may have been issued a seal each time a new king took power, or possibly even multiple times during a given ruler’s reign. “If you imagine that the seal was a representation of the relationship between the king and his population, that each man had to have a seal to confirm his relationship with the king,” he says, “then it’s easier to understand the large number.”

The shape of Dilmun stamp seals, too, may have been an expression of royal authority. Højlund points out that the round disk topped with a domed boss bears a striking resemblance to the royal cap known from depictions of Mesopotamian kings of the late third and early second millennium B.C., such as Gudea, who ruled Lagash from around 2150 to 2125 B.C. A similar cap, he suggests, was likely worn by Dilmun kings. “Modeling the Dilmun seal after the royal headdress has to do with divine legitimation of power,” Højlund says. “The gods brought kingship to Earth, represented by three symbols: the crown, the scepter, and the throne. By modeling the Dilmun seal in the shape of the royal crown, it was invested with the king’s, and ultimately the gods’, authority.” Thus, the seals underscored the new social order that helped Dilmun achieve success far out of proportion with its small population.



The front of a Dilmun stamp seal (left) is expertly carved, as are the four dotted circles on the raised boss (below) on the seal’s back. However, the three parallel lines demonstrate far less skill.

Around 50 years after the first Dilmun stamp seals were produced, a set of novel features was added to seals from then on. Four dotted circles were drilled into the boss, and three parallel lines were carved across its dome. Højlund observes that the parallel lines are almost invariably executed crudely, while in all other respects, the seals are the product of superior craftsmanship. They are uniformly round despite having been cut with knives or chisels without the aid of a turning device. Their complex designs were carved with a confident, steady hand. And the four dotted circles on the bosses were deliberately placed as if at the corners of a square and drilled with a tool that would have required great skill to operate. Højlund suggests that the three lines must have been made by someone other than the original artist. He proposes that they were carved by the individual who would use the seal. “It’s the personal touch, a sign that the seal owner agrees to have a relationship with the king,” Højlund says. “He puts himself at the king’s disposal by signing his own seal.”

As for the four dotted circles on the boss, Laursen notes that their shape and configuration mirror those of the stone rings where Dilmun kings were buried, and may have been an intentional reference to them. “It’s hard to prove the connection, but it’s very conspicuous that you have this arrangement in the architecture of their dynastic cemetery and on the seals of their subjects,” he says. “This may have been an emblem that belonged to the Dilmun dynasty. Perhaps it was also something they painted on their buildings, flew on banners, or wove on their capes.”

Dilmun continued to control the Gulf trade until around 1700 B.C., when a group known as the First Sealand Dynasty rose in southern Mesopotamia and took over both Failaka and Bahrain. The Sealand people were based close to the Gulf and may have developed superior maritime skills that gave them an advantage over the Dilmunites. Dilmun may also have been weakened by infighting. Laursen has uncovered evidence that, between 1800 and 1750 B.C., the royal tombs were destroyed and a new king was buried directly in the center of four earlier royal burials. “It looks like there was a coup within the dynasty,” he says. From that time until Dilmun fell, the four dotted circles no longer appeared on seals. The Dilmunites’ shared emblem, and indeed the identity of this thriving desert kingdom, had begun to fade, and soon would be no more. ■

Daniel Weiss *is executive editor at* ARCHAEOLOGY.

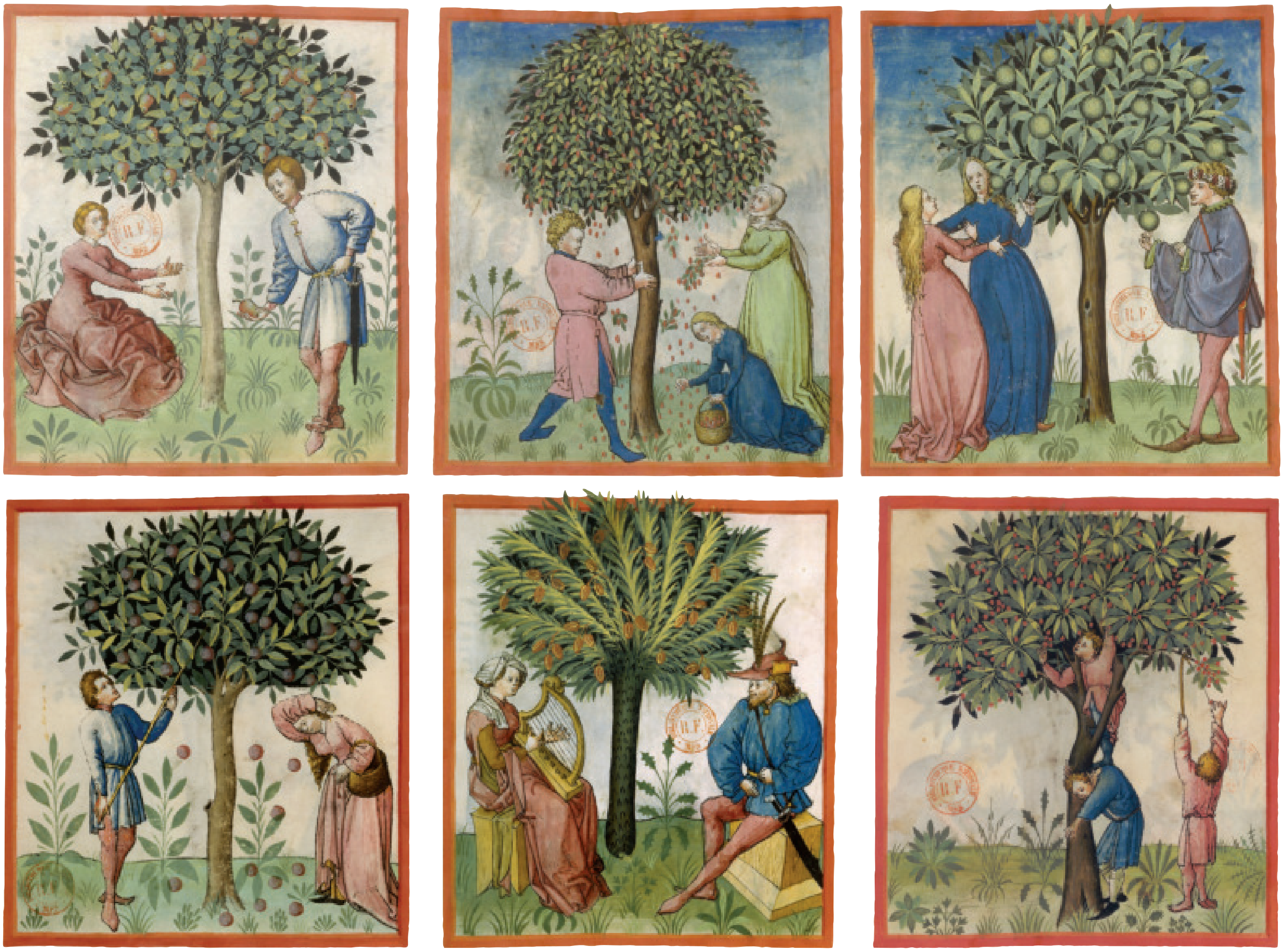
A PASSION FOR FRUIT

Exploring the surprisingly rich archaeological record of berries, melons...and more

By The Editors

By 7,000 years ago, people in New Guinea were cultivating bananas. Around the same time, figs in the Near East and avocados in Mesoamerica were well on their way to becoming the fruits we savor today. People across the world consume an astonishing variety of fruits. These range from the smallest edible example—a neon green sphere produced by the Asian watermeal plant that measures less than the width of a pencil tip—to the largest, the 100-pound yellowish-green jackfruit. "The fruit we eat now is a result of people experimenting extensively for thousands of years," says archaeobotanist Erica Rowan of Royal Holloway.

For archaeologists, evidence of ancient fruit opens unexpected pathways to understanding the past. "The seeds or pits of fruit are quite hardy and survive well in the archaeological record," says Rowan. Studying fruit can give scholars glimpses of the ingenuity of ancient peoples—for example, some used figs preserved in honey as a source of precious calories during harsh winters. People of all eras, it seems, have coveted fruit as a welcome departure from ordinary fare. "Fruit was used as a source of sugar, nutrients, flavor, and lots of different textures," says Rowan. "Fruit was everywhere, all the time. It has always been very important to people."



A 15th-century manuscript shows trees bearing (clockwise from top left): sweet apples, jujubes, lemons, cherries, dates, and sour apples.

ROYAL FRUIT

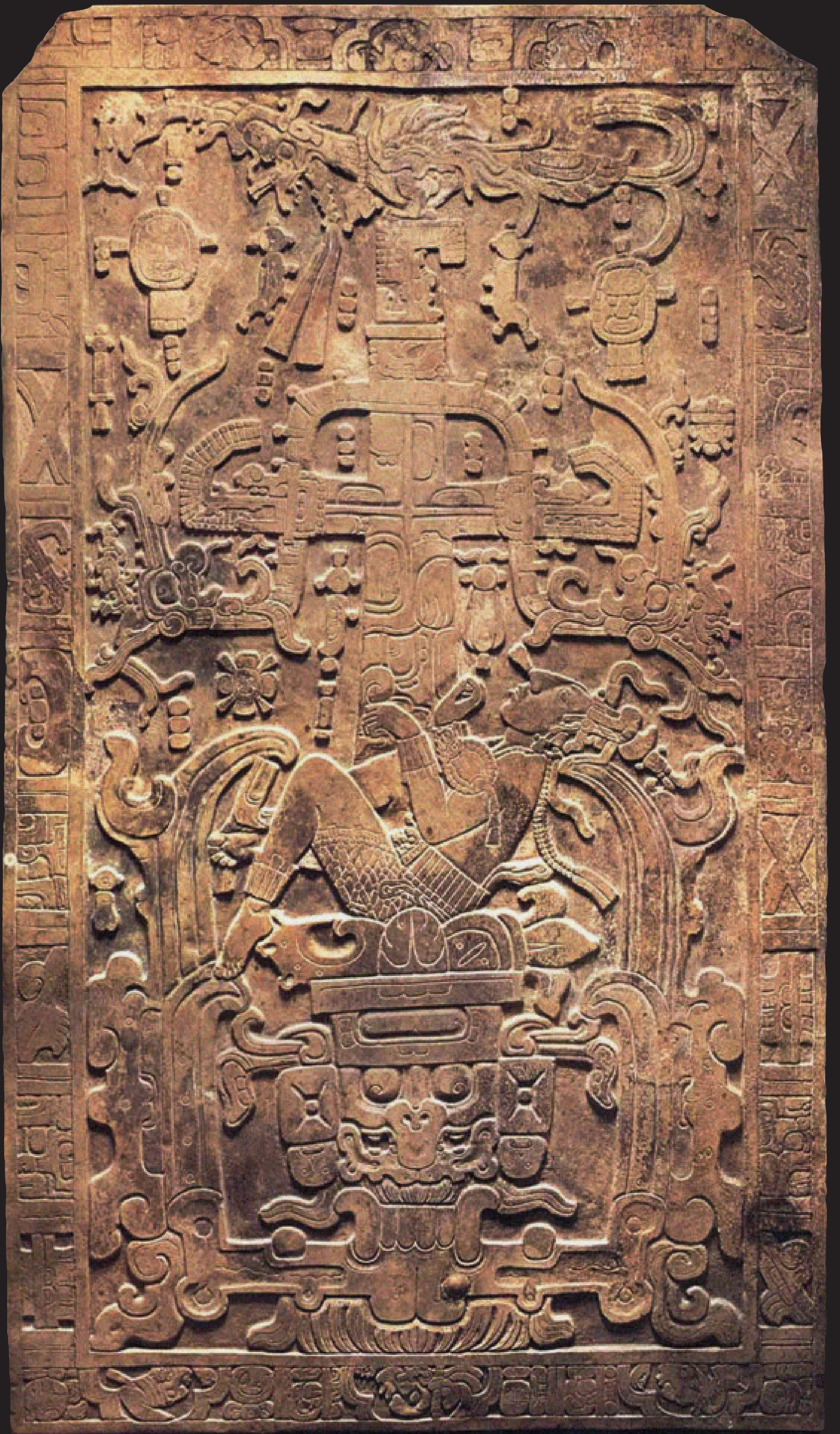
Palenque, Mexico and Pusilha, Belize

Avocados aren't the most obvious fruit to inspire a devoted following. They resemble an odd-shaped egg with a reptile's bumpy skin, their pale greenish flesh is slimy and is rarely cooked, and their giant seeds are mildly toxic and act as a laxative. In the modern world, these large berries are very expensive. Nevertheless, avocados, one of the earliest domesticated fruits in the Americas, have enjoyed cult status ever since Mesoamericans first cultivated them. "Avocados are a very charismatic fruit," says anthropologist Jennifer Mathews of Trinity University.

For the Maya, avocados were both an essential source of nutrition and part of their belief system—the fourteenth month of the Maya calendar is represented by the glyph for avocado. The high regard in which the Maya held avocados is also evident on the sarcophagus of one of their greatest rulers, K'inich Janaab' Pakal, king of the city-state of Palenque in southern Mexico for most of the seventh century A.D. The carved lid of Pakal's enormous sarcophagus shows his rebirth as the eastern sun, and the sides depict 10 of his predecessors in front of fruit trees. Two of these rulers, K'an Joy Kitam I (reigned A.D. 529–565) and Yohl Ik'nal, the first Maya queen (reigned A.D. 583–604), stand before avocado trees.

The avocado's status wasn't limited to mighty Palenque or to Maya religion. Glyphs on monuments in the city of Pusilha in southern Belize identify it as the Kingdom of Avocados and its rulers as the Lords of Avocados. "I think it's a way people showed the power that comes with control of a desirable commodity and the privilege of caring for trees that have deep roots in their ancestral heritage," says Mathews. "As subjects walked through their own gardens, where avocado trees would have been growing, it would have been like walking through their city's history."

—Jarrett A. Lobell

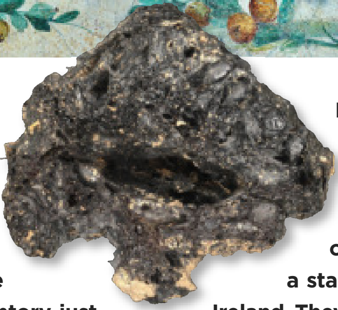


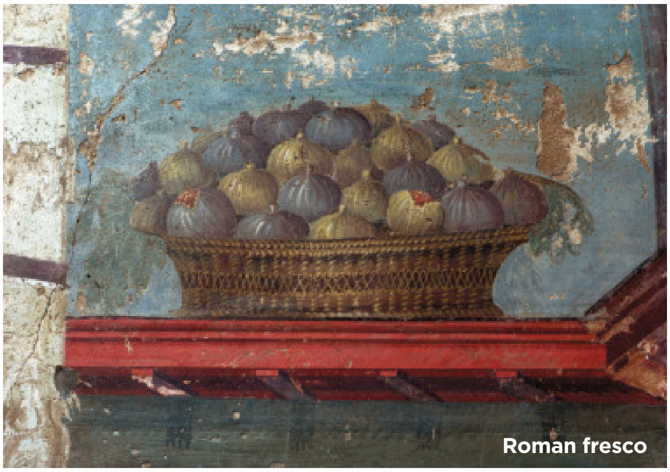
Lid of Pakal's sarcophagus

ANCIENT COMFORT FOOD

Drumanagh, Ireland

While the Romans never ruled over Ireland, their conquest of Britain in the first century A.D. brought expanded trade opportunities to the Emerald Isle. From the first to third century A.D., the site of Drumanagh, on a windswept coastal promontory just north of Dublin, was a trading post where a range of novel foodstuffs made landfall. During excavations that began in 2018, a team led by archaeologist Christine Baker of the Fingal County Council has discovered copious amounts of burned spelt, a cereal that was a staple in Roman Britain but was relatively rare in Ireland. They have also unearthed fragments of 10 amphoras used to transport olive oil to Drumanagh.

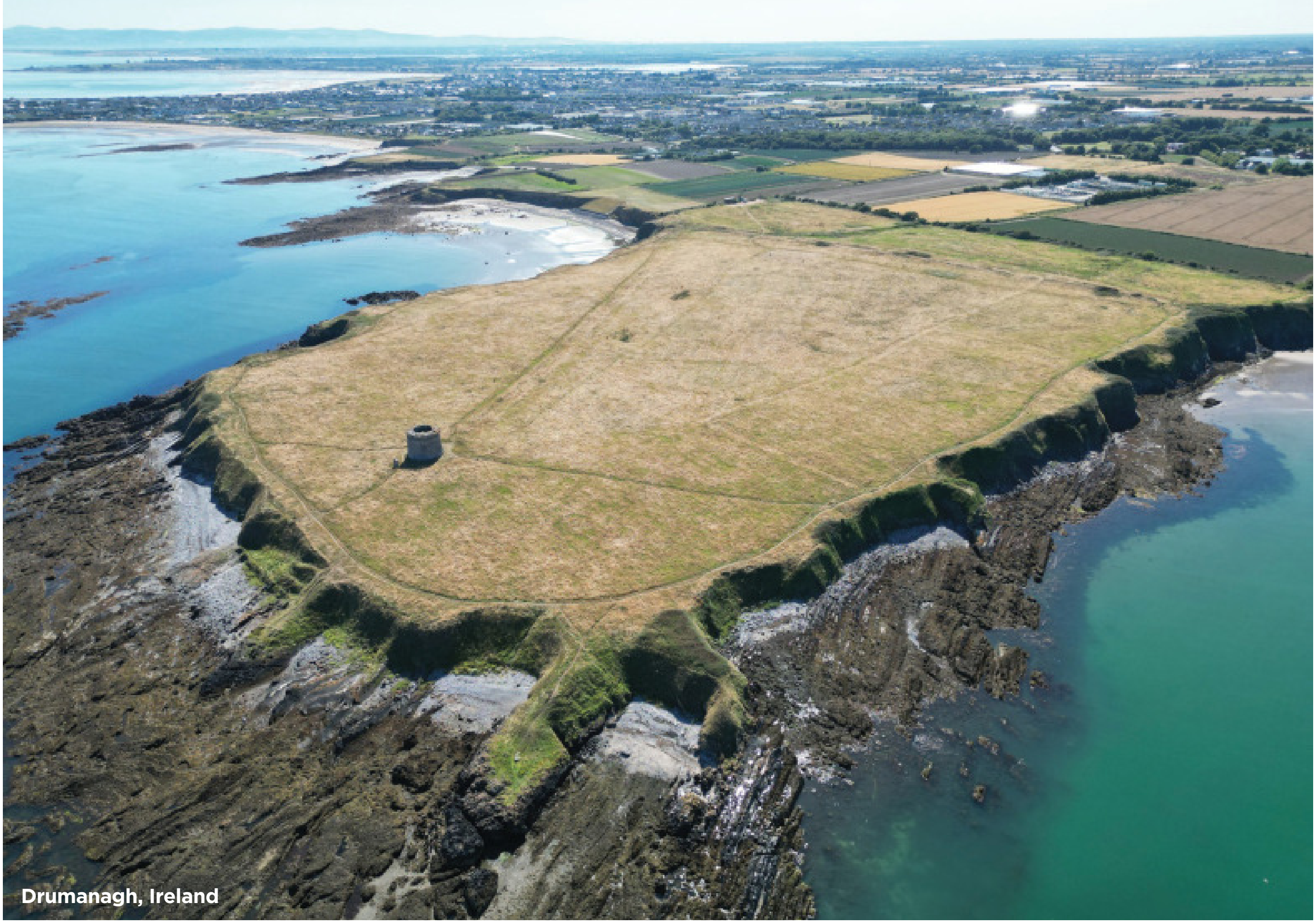

Burned fig


Roman fresco

Recently, the team made its most exciting gustatory find so far: a burned fig that has remained intact for nearly 2,000 years. “When first examining its exterior under the microscope, I thought it might be a small apple, and then turned it round and gasped because the internal structure was very clear,” says Meriel McClatchie, an archaeologist at University College Dublin. “I could see lots and lots of little seeds and I realized, ‘It’s a fig!’” The fig, which likely originated in the Mediterranean, is by far the earliest piece of exotic fruit to have been discovered in Ireland.

It’s possible that these non-native foods were being consumed not by the Irish but by the Romans who came to trade with them. McClatchie imagines a Roman merchant insisting upon bringing familiar foods to tide them over on a posting so far from home: “‘I’m not going to that damp, windy rock unless I get my figs and my spelt!’” she says.

—Daniel Weiss


Drumanagh, Ireland

Peach tree, Georgia

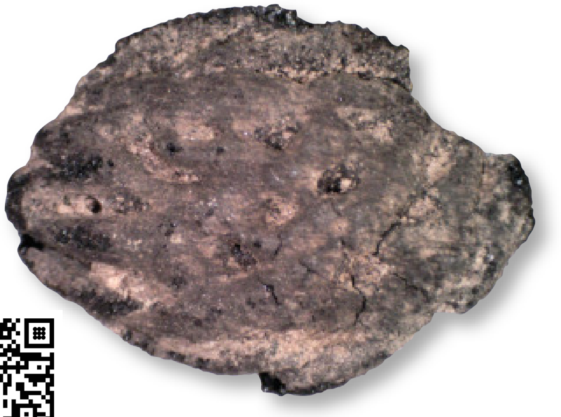
ORIGINAL GEORGIA PEACHES

American Southeast

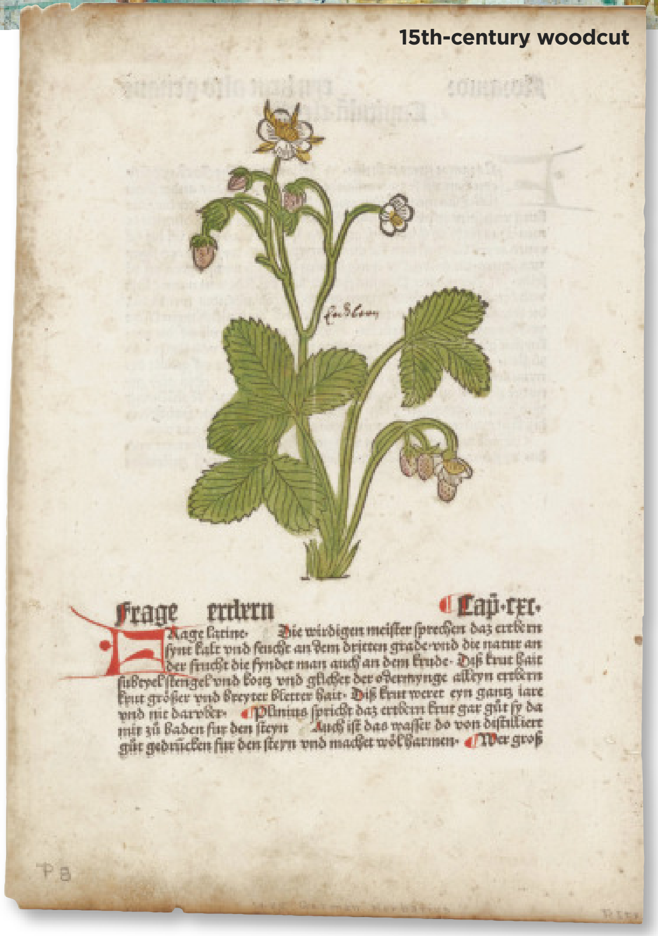
More than 600,000 tons of peaches are grown in the United States each year, and the fruit is a fixture of American diets. Yet scholars have had only a dim understanding of the iconic fruit's early history in North America. Historians assumed that Spaniards introduced peaches to Florida by the mid-sixteenth century. In the eighteenth century, large stands of wild peaches were reported as far from Florida as Pennsylvania and Arkansas. Because peach trees are hardy and can bear fruit less than two years after germination, many scholars believed peaches were a particularly successful invasive species and quickly spread across the continent. In this scenario, Native Americans were largely bystanders in the fruit's story.

A team led by archaeologist Jacob Holland-Lulewicz of Pennsylvania State University has studied all known examples of peach pits from archaeological sites in the Southeast. Their findings suggest that the fruit didn't spread on its own, but was first cultivated in Georgia by people ancestral to the Muscogee between 1620 and 1645. These people then likely transported peaches via well-established trade networks. "Indigenous people had a central role in cultivating and spreading peaches," says Holland-Lulewicz. "They weren't passive beneficiaries of the success of feral peaches."

—Eric A. Powell



17th-century peach pit



15th-century woodcut

Frage ertbern ¶ Cap·cxc·

Frage latine· Die wirdigen meiſter ſprechen daz ertbern ſynt kalt vnd feuchte an dem dritten grade· vnd die natur an der frucht die fyndet man auch an dem krude· Daß krut hait ſubtyel ſtengel vnd worz vnd glicher der obermynge alleyn ertbern krut groſſer vnd breyter bletter hait· Diß krut weret eyn gantz iare vnd nit darvber· ¶ Plinius ſpricht daz ertbern krut gar gůt ſy da mit zů baden fur den ſteyn Auch iſt das waſſer do von diſtilliert gůt gedrůncken fur den ſteyn vnd machet wol harnen· ¶ Wer groß

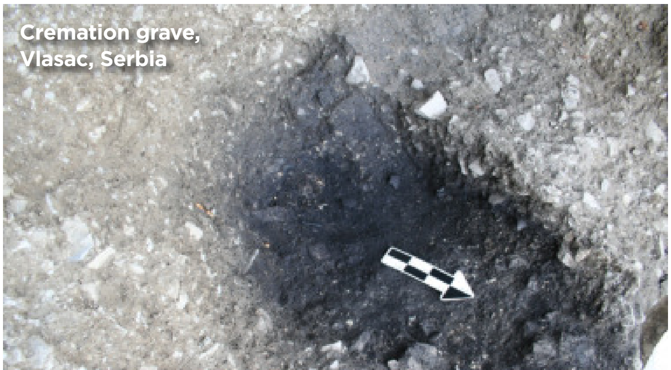
THE STRAWBERRY CURE

Northern France and England

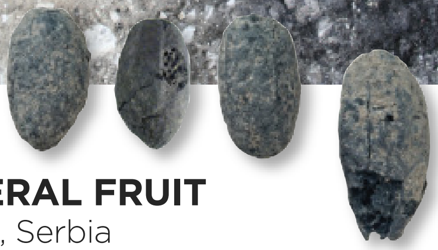
By the early fourteenth century, wealthy landowners and monastic orders across western Europe had brought wild strawberries onto their cultivated lands and inside their garden walls. With its white star-shaped flowers and tiny ruby fruits, the wild strawberry would have provided a feast for the senses in the pleasure gardens of aristocrats. "They have a really strong perfume," says historian Theresa Tyers of Swansea University. "Like the latest dress, they must have been fashionable to have." Wild strawberries quickly reached even the most luxurious estates. In 1368, for example, King Charles V's gardener grew 1,200 wild strawberry plants in the gardens of the Louvre Palace in Paris.

Medieval herbalists valued wild strawberries for their curative properties. "Strawberries were very much seen as natural healing agents," says Tyers. "Since they grew in cool places, people considered them a cooling element and used them to reduce fevers." Strawberry leaves and fruit are listed in medieval medical texts from England as crucial ingredients in remedies used to treat maladies such as swelling, rheum, and dysentery. A manuscript dating to the early 1300s comes from northern France's region of Picardy. There, Mahaut, Countess of Artois, is known to have cultivated strawberries in the gardens of her sprawling estate, which also included a hospital. The text gives a recipe for an ointment featuring strawberry leaves that was used to heal pustulant abscesses or tumors.

—Benjamin Leonard



Cremation grave, Vlasac, Serbia



Charred cherry pits

FUNERAL FRUIT

Vlasac, Serbia

Nearly 9,000 years ago, Mesolithic foragers living along the Danube gathered Cornelian cherries on the edges of a dense oak forest surrounding their settlement. They used cherry wood as kindling and might also have extracted oil from the pits for fuel. A team led by archaeologist Dušan Borić, now at the Sapienza University of Rome, excavated several burials at the settlement. Beneath one, they unearthed a small earlier grave dating to the mid-seventh millennium B.C. containing cremated human bones. Sprinkled throughout this grave were about 30 charred cherry pits, 13 of them whole. Borić thinks the bones were burned to purify the ground before interring a newly deceased member of the community. "We began to speculate whether the cherries were attached to branches used to make a funeral pyre," he says, "or if they had some sort of symbolic meaning."

To investigate why so many of the pits survived intact, Max Planck Institute of Geoanthropology archaeobotanist Dragana Filipović experimented with charring fresh Cornelian cherries. She found that heating the fruit for two hours resulted in pits resembling the intact examples from the grave. "Because the ancient pits are perfectly clean, which would not have happened naturally, we concluded that the cherries had been consumed," says Filipović. The cherries would have been easiest to eat at peak ripeness in September or early October, which is probably when the burial occurred. "I expect that they were eaten fresh at the funeral," Filipović says, "and then the pits were discarded in the grave as part of the cremation ritual."

Borić and Filipović believe that cherries' eye-catching color bolstered their ritual significance. "Red is present throughout the region," Borić says. "Red limestone was crushed to create floors, and we found ocher in some of the burials." Filipović notes that the sourness of Cornelian cherries leaves a very strong impression. "No wonder they came to mind first," she says, "when thinking about something to consume and deposit with the deceased."

—Benjamin Leonard

POISONOUS PICNIC

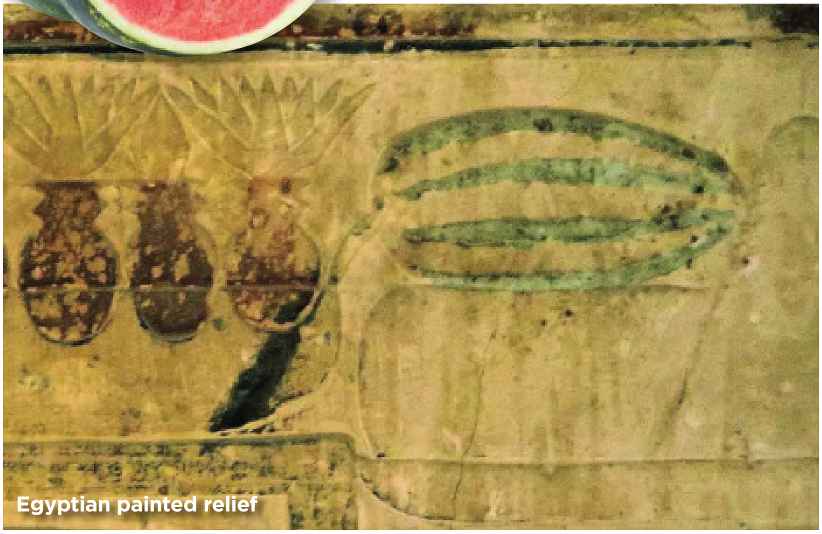
Africa

Long before watermelon became a refreshing summer treat, reliefs adorning the walls of ancient Egyptian tombs suggest the fruit was a coveted delicacy. However, exactly when the species of watermelon commonly consumed today, *Citrullus lanatus*, became the beloved emerald-skinned fruit with white stripes and a sweet red interior is unclear. In fact, its 6,000-year-old predecessor's pulp wasn't very tasty and was potentially hazardous. "It actually could have killed you," says botanist Oscar Alejandro Pérez Escobar of the Royal Botanic Gardens, Kew.

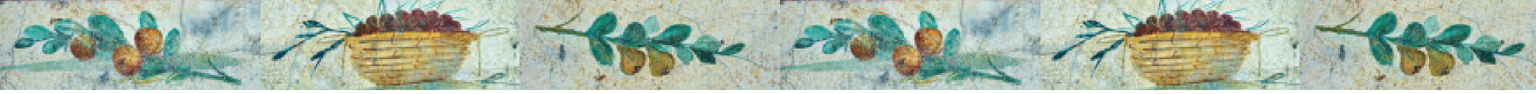
To plot the fruit's evolutionary trajectory, Pérez Escobar's team sequenced genomes from watermelon seeds dating to between 6,000 and 3,400 years ago excavated from graves in Libya and Sudan. They traced watermelon's origins to a species closely related to the modern West African *Citrullus mucosospermus*, which has bitter, greenish-white flesh. This involved identifying the oldest known samples of the genus *Citrullus* from an archaeological context: 6,000-year-old seeds found in a tomb at the Neolithic settlement of Uan Muhuggiag in Libya. Genomic analysis revealed that the fruit would also have been pale and bitter. Based on damage patterns on teeth from the tomb, the researchers propose that people may have first cultivated *Citrullus* not for its flesh, but for its seeds, which were likely eaten.

—Ilana Herzig

Watermelon



Egyptian painted relief



SNEAKING A SNACK

Sydney, Australia

Hyde Park Barracks, Sydney, Australia

Hyde Park Barracks was home to two nineteenth-century institutions for women: the Female Immigration Depot, which housed newly arrived immigrants who stayed for a short time before joining their families or other households as domestic workers, and the Asylum for Infirm and Destitute Women, which housed women unable to support themselves. The official diet served in these institutions was bread, meat, and boiled vegetables, but archaeological investigations have revealed that residents supplemented these monotonous rations with a cornucopia of fruits.

Archaeologists working at the barracks several decades ago discovered more than 3,500 pieces of plant remains trapped beneath the building's floorboards. Kimberley Connor, an archaeologist at Stanford University, recently studied this collection and found that more than four-fifths of the remains were pits or stems from stone fruits such as cherries, apricots, and plums. Peaches were by far the most popular fruit—1,469 peach pits were recovered. "Peach trees aren't native, but they grew really well in the environment around Sydney," Connor says. "There are historical accounts of people feeding pigs fresh peaches by the wheelbarrow full."

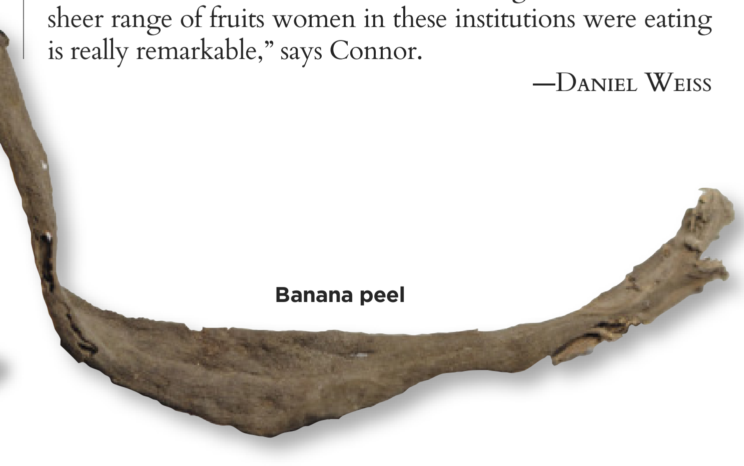
It's unclear whether authorities condoned the women's snacking. Connor notes that many of the discarded items were so large that residents would have had to lift the floorboards in order to hide the evidence of their fruit consumption. Women were allowed to periodically leave the barracks to attend church or visit friends, and these forays would have offered opportunities to purchase or harvest fruit. In addition to stone fruits, residents also favored oranges, dates, and bananas. Among the rarer fruits in the collection are a few scraps of lychee skin and a set of 19 seeds from what appears to have been a single cherimoya, a fruit native to South America, the first find of its sort in Australia's archaeological record. "The sheer range of fruits women in these institutions were eating is really remarkable," says Connor.

—Daniel Weiss

Excavation, Hyde Park Barracks

Citrus peel

Cherimoya seeds



Banana peel

Peru’s Timeless Threads

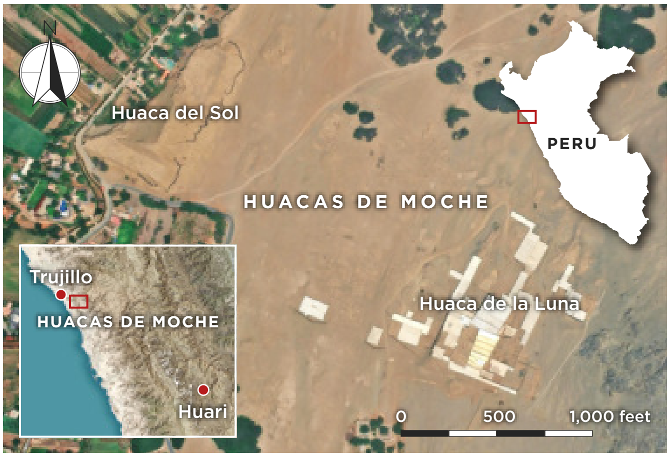
More than 1,000 years ago, master weavers kept the ancient traditions of the Moche culture alive

By Jarrett A. Lobell

If a catastrophic eruption suddenly buries most of a region under volcanic ash, does the culture of those still living there end abruptly? Does the identity of people who have endured for hundreds of years transform completely when a rival conquers a centuries-old capital, or when climate change makes farming the land impossible? The archaeological record shows that even under pressure, whether extreme or gradual, people carry on despite altered circumstances, preserving at least some of their culture in the form of artistic techniques and styles. “Cultures can be flexible and resilient,” says archaeologist Jeffrey Quilter of Harvard University, “even in the face of great change.”

Quilter and a team including archaeologist Carlos Rengifo of the National University of Trujillo and art historian Amy Oakland of California State University, East Bay, wanted to see how the people of the Moche culture, who lived in Peru’s northern coastal valleys between about A.D. 350 and 850, preserved their identity even as powerful groups from other regions threatened it. The team examined textiles excavated at Huaca del Sol, a multilayered adobe mound measuring 1,000 feet long and 500 feet wide that once stood 135 feet high. Made with 130 million bricks, Huaca del Sol was the largest pre-Columbian adobe structure in the Americas.

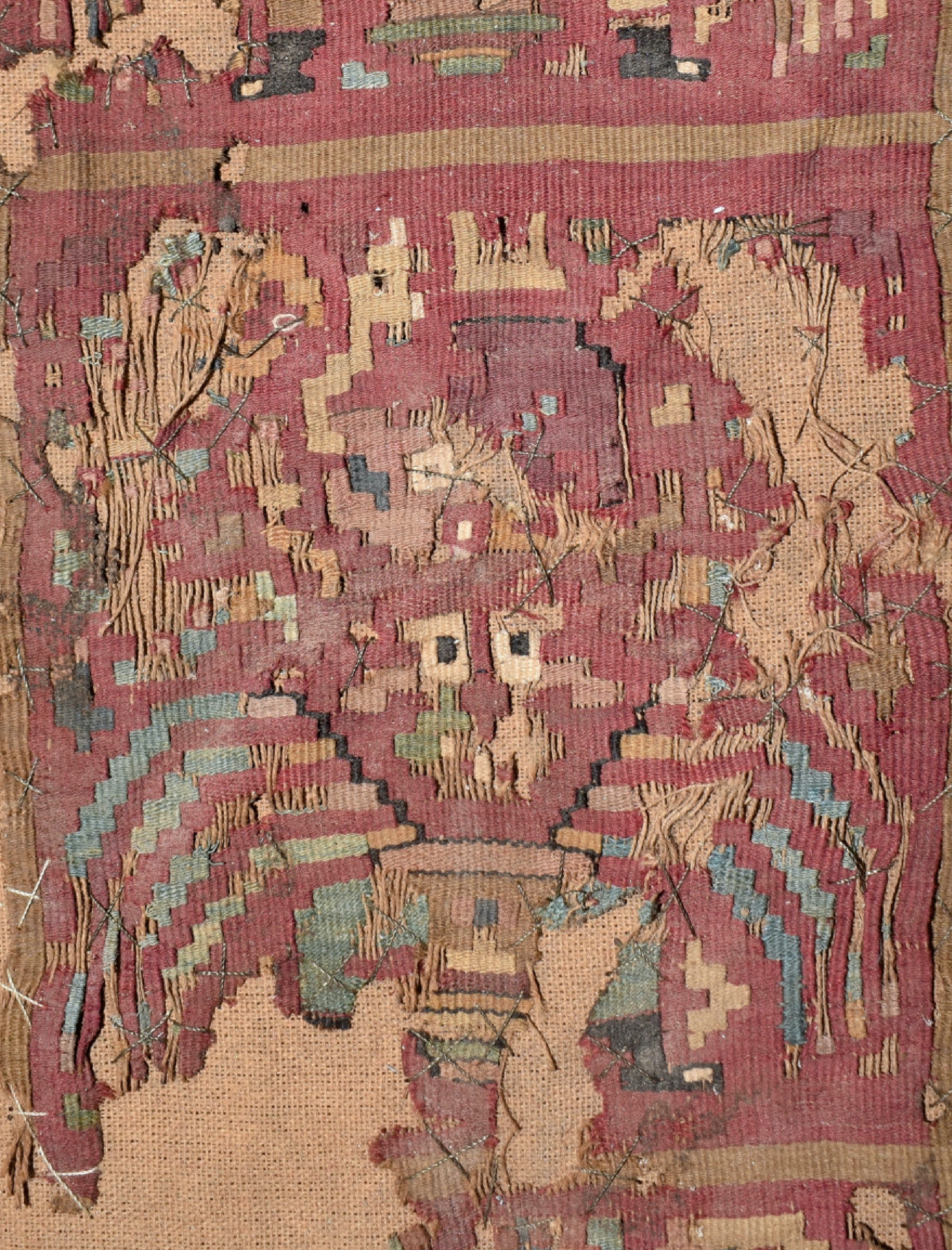
The Moche were skilled weavers who created vibrantly colored and richly patterned textiles to make clothing and bags that were used by the living, and garments and offerings to bury with the dead. The importance placed on these items made them a perfect vehicle to investigate the Moche’s response to their shifting circumstances. “Textiles, like ceramics, are one of the best ways to find people’s core traditions,” Oakland says. “But ceramics are often imported, while most cloth is local, so it’s textiles that really tell you who people are.”



In 1899 and 1900, archaeologist Max Uhle excavated at a 120-acre site known as Huacas de Moche, five miles south of the city of Trujillo. The site includes Huaca del Sol and a 100-foot-tall mound called Huaca de la Luna, which were both constructed over centuries. Huacas de Moche was one of the Moche’s largest cities. It was filled with wide-open plazas, large ritual platforms, and an ample residential quarter between the huacas. Huaca del Sol’s southern end was converted to a cemetery late in the site’s use. Beginning with Uhle, and in more recent excavations, archaeologists have unearthed 200 textiles. These are all significant discoveries, as Moche textiles are rarely found in excavations in this region. The graves containing these textiles were highly disturbed in antiquity, when the tombs were reused and new textiles were added to existing burials. They were also left in some disarray after Uhle’s excavations. Nonetheless, the team was confident that they could date the burials. “Our current team has excavated at Huacas de Moche for more than three decades,” says Rengifo. “Even though we faced challenges in every sector of the site, we have been able to reliably identify different contexts and determine what information can be obtained from them.”

From among textiles uncovered in 2013, the team selected 20 for analysis. They found that weavers had created the textiles from cotton and camelid yarns made using two different spinning techniques. All Moche textiles were woven with cotton that had been spun using a method that produces yarn with an “S-twist.” “This means that the spinner draws the fibers off the tip of her horizontal spindle while twisting the spindle with a clockwise motion similar to snapping your fingers,” Oakland explains. The Moche and other groups in northern Peru used both single and double strands of S-twist yarn. By contrast, spinners from southern Peru and its highlands created both cotton and camelid yarns with a vertically rotating spindle also twisted in a clockwise direction. Fiber spun in this

A motif known as the crab-man is one of the typically Moche designs found on textiles discovered in the cemetery on a mound called Huaca del Sol on the northern Peruvian coast.



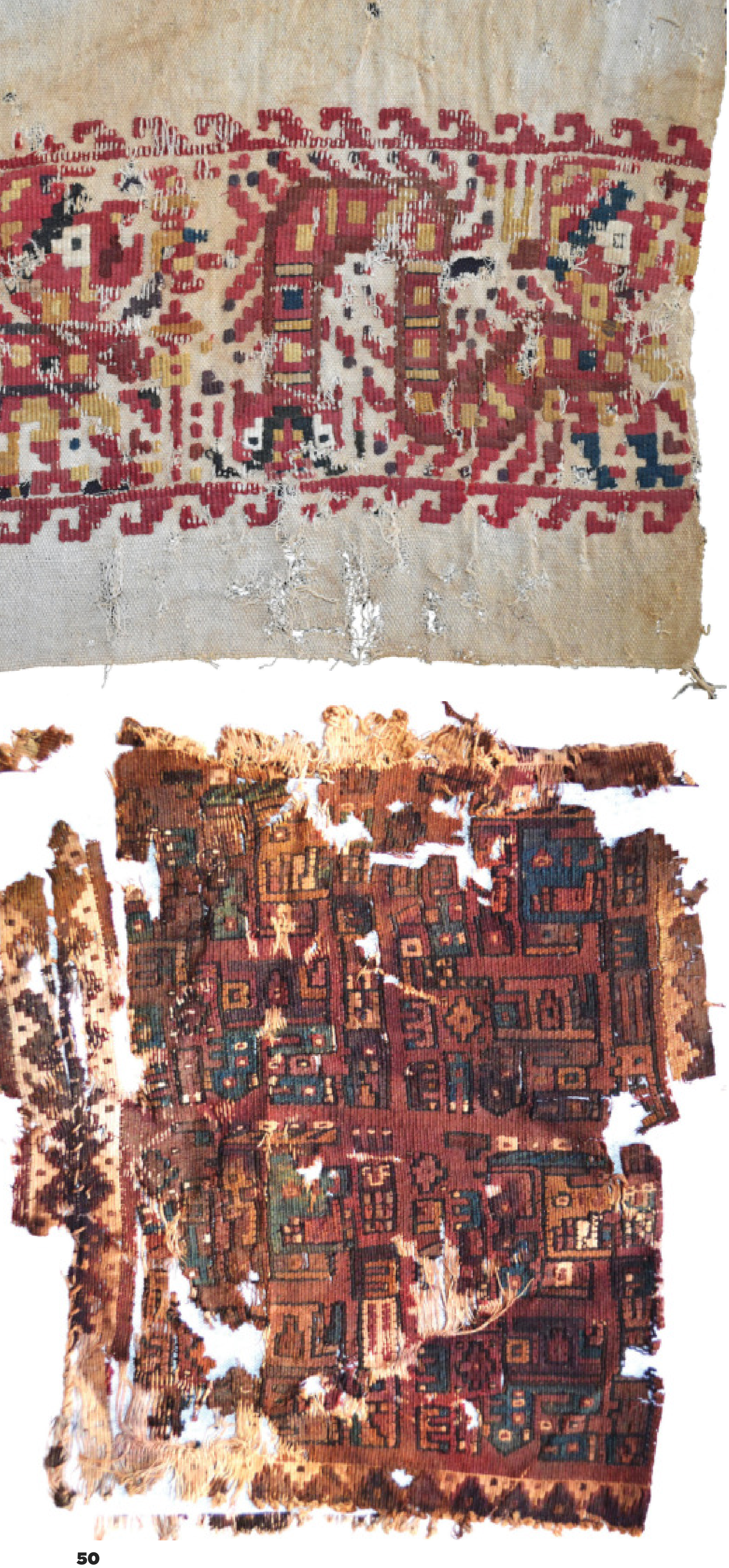
way produces “Z-twist” yarn that is plied, or twisted together. Among the 20 textiles the team sampled, they found that the yarns were made of a combination of cotton and camelid fibers using both the S-twist and Z-twist techniques. “Three of them used clearly foreign materials and techniques different from those normally used by the Moche,” Oakland says. These seemingly small variances in technique would prove to have large implications.

Radiocarbon dating of the samples revealed that all the textiles were made between around A.D. 893 and A.D. 989. These dates fall at the end of the Middle Horizon era in the Andes (A.D. 650–1000), during which the Moche experienced immense cultural shifts as outside powers expanded their influence into the Moche heartland. One of these new groups, which was based in the southern highland city of Huari, some 300 miles from Huacas de Moche, has come to be known by scholars as Wari. From around A.D. 600 and for the next several centuries, Wari’s commercial, ideological, technological, and political sway over the Andes grew, and the nature and timing of its influences on the Moche were the impetus for the team’s interest in the textiles.

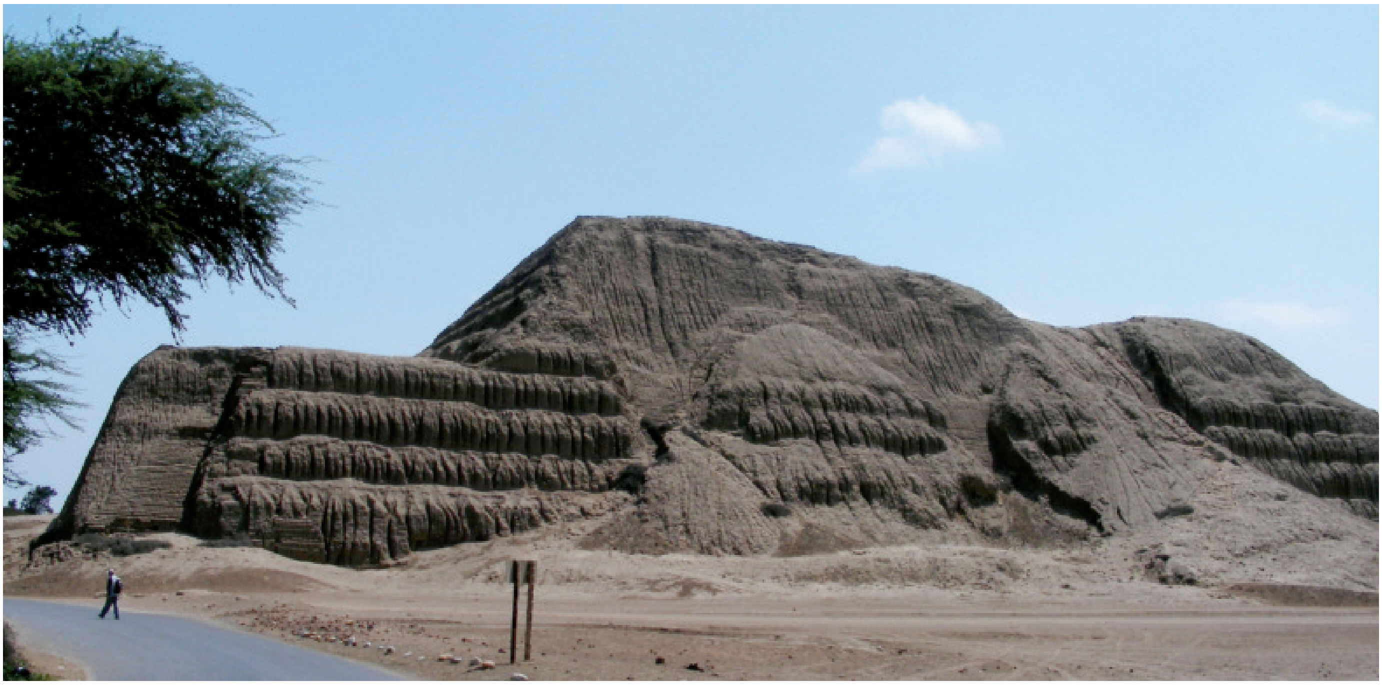
“The later Moche lived in a world that differed substantially from the experiences of earlier inhabitants,” says Quilter. Like the Moche, the Wari were renowned for their textiles.

Among the samples from Huaca del Sol, the team found four different styles, each with its own combination of yarn type and decorative motifs. These four styles match those that Oakland had previously identified in textiles Uhle had recovered. These include one style that continued older Moche decorative and technical approaches, one combining highland and Moche techniques, another with Moche and Wari influences, and a fourth employing a purely Wari style.

The first type was made with S-twist cotton and shows such typically Moche patterns as diamonds in grid crosses, diagonal lines, and designs including a crab-man and a man wearing a snake belt. This style resembles tapestry, and the patterns are made by drawing yarn horizontally through vertical threads strung on a loom, called the warp, leaving the weft, or horizontal



A man (top) wearing a snake belt on a textile from the Huaca del Sol cemetery provides an example of Moche iconography. A bag (left) found in one of the cemetery’s burials displays a typically Wari motif of figures bearing staffs.



yarns, visible. "These weavers clearly had respect for their past and wanted to belong to it," Quilter says.

The hybrid Highland-Moche style was created using Z-twist camelid fibers and S-twist cotton to produce Moche patterns such as diamonds and bean shapes. "These late Middle Horizon people were continuing to weave excellent examples of Moche images," Oakland says. "One of these textiles appears as if it had been woven just before being placed in a grave." This cloth had no special purpose and had not been part of a garment. "This is a good example of the continuance of 'Mocheness' at the site," she adds.

The third type of textile, combining Moche and Wari elements, was made using a cotton warp spun in Moche style with S-twist yarns and features Wari imagery, such as a motif known as the staff-bearing figure seen on a tapestry bag recovered from the cemetery. "It appears that Moche weavers wove Wari images using some Moche techniques," Oakland says. The fourth type, which she characterizes as solely Wari, was made using only plied camelid Z-twist yarns.

Huaca del Sol (top), which was once the largest adobe structure in the Americas, stretched 1,000 feet long and stood 135 feet tall. Burials (above) in the cemetery on Huaca del Sol, which were excavated in 2013, contained four different styles of textile.

THE GREAT DEAL OF overlap among the different spinning and weaving techniques and the motifs weavers chose reflects interconnections during the later years of the Middle Horizon period. At this time, Moche cultural identity was far less rigid than it had been previously. "After around A.D. 850," Rengifo says, "there was a degree of openness in terms of the circulation and consumption of foreign artifacts, and perhaps even foreign ideas, which the Moche expressed in their burials and the artifacts they chose to place in them." Trade and contact with both neighboring communities and others from far away, including Wari, were catalysts for the dissemination of particular motifs and techniques. "Some communities, like the one in Huacas de Moche, found these motifs and techniques appealing enough to incorporate them into their artisanship," says Rengifo.

Because the Moche left no written record, scholars can only reconstruct how they perceived themselves by interpreting surviving artifacts and structures. "In the tenth century A.D., the people who lived at Huaca del Sol may no longer have thought of themselves as Moche, per se, even though they continued to use symbols and techniques from the past," says Quilter. "The textiles, pots, and other artifacts suggest that they still thought of themselves as Moche, but trying to pin down their sense of identity is tough." Nevertheless, he says, some sense of what it meant to be Moche appears to have been maintained even as the world was evolving. "This work has strengthened my belief that the Moche culture, like all cultures, was continually changing while, at the same time, ideas and practices persisted long after their original development," Quilter says. "They were just like us in that regard." ■

Jarrett A. Lobell *is editor in chief at* ARCHAEOLOGY.

Farmers Insurance Choice®

We're talking hundreds in savings

Archaeology Magazine subscribers now have special access to personalized quotes for **auto, home, and renters insurance** through Farmers Insurance Choice®.

Quickly and easily compare quotes to see how you could save.

Get started on your free quotes today.

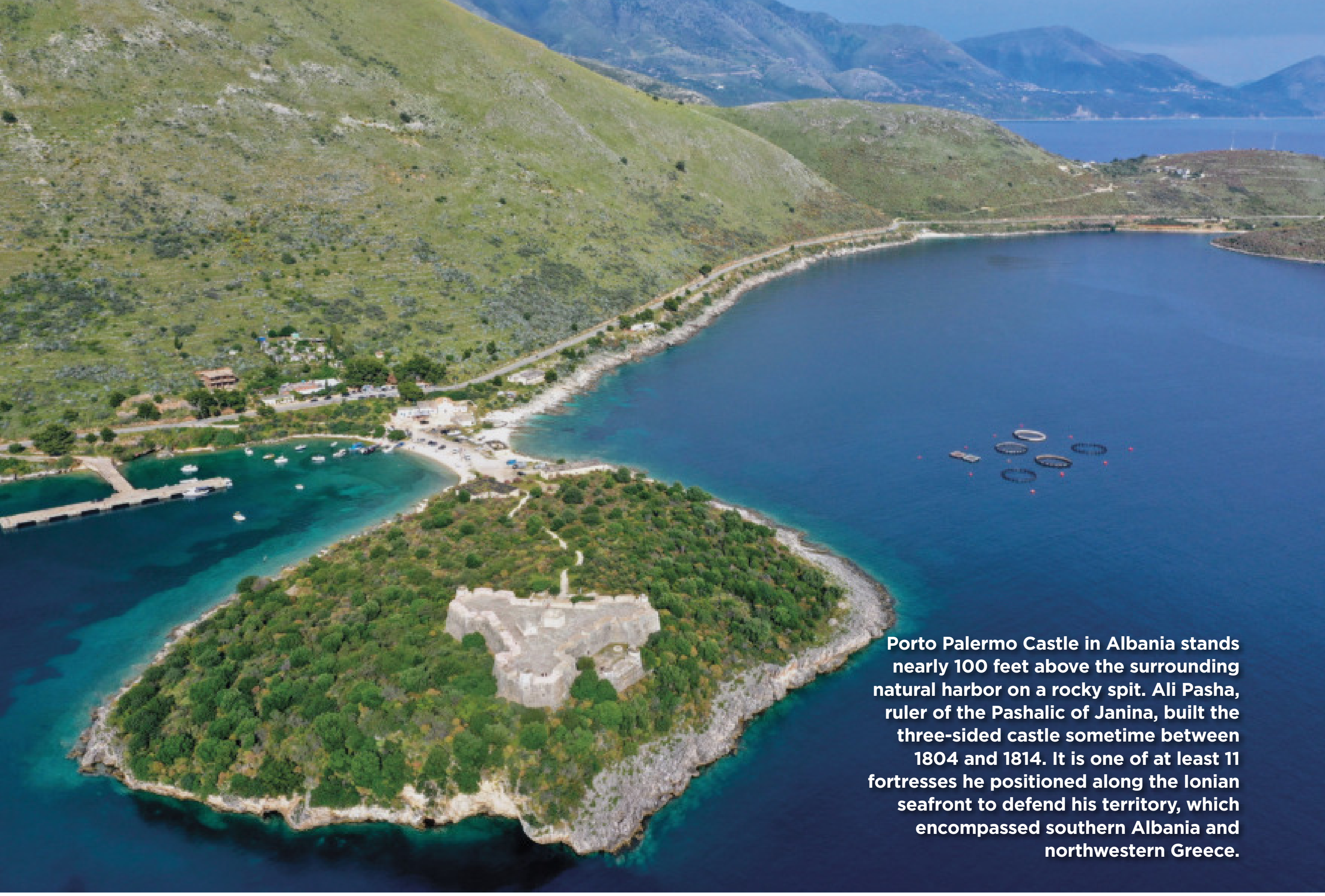
Call **844-485-3419** or visit **FarmersInsuranceChoice.com/theAIA**

FARMERS® INSURANCE

Farmers Insurance Choice is used by agents, like Farmers General Insurance Agency, Inc. (CA License #0D25399) to provide a choice of providers, not just Farmers GroupSelect companies.

Ad by these insurers seeing business: Farmers Property and Casualty Insurance Company and certain of its affiliates: Economy Fire & Casualty Company, Economy Preferred Insurance Company, Farmers Casualty Insurance Company, Farmers Direct Property and Casualty Insurance Company, Farmers Group Property and Casualty Insurance Company, or Farmers Lloyds Insurance Company of Texas, all with administrative home offices in Warwick, RI. List of licenses at farmers.com/companies/state/. Coverage, rates, discounts, and policy features vary by state and product and are available in most states to those who qualify.

© 2025 Farmers Insurance®



Porto Palermo Castle in Albania stands nearly 100 feet above the surrounding natural harbor on a rocky spit. Ali Pasha, ruler of the Pashalic of Janina, built the three-sided castle sometime between 1804 and 1814. It is one of at least 11 fortresses he positioned along the Ionian seafront to defend his territory, which encompassed southern Albania and northwestern Greece.

LETTER FROM ALBANIA

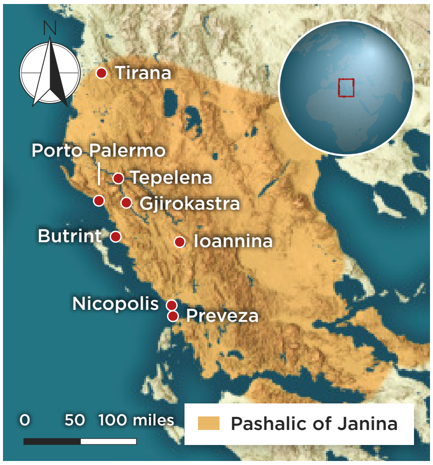
THE MANY FORTRESSES OF ALI PASHA

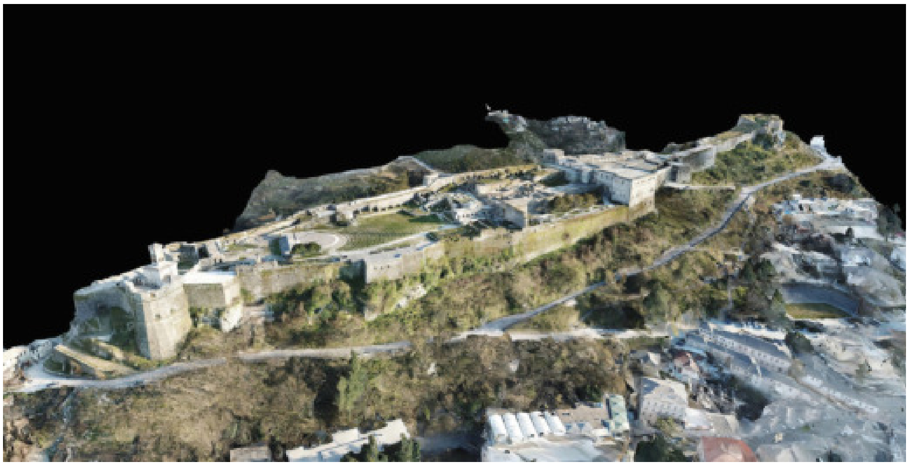
How a father and son are documenting the architectural legacy of a renegade nineteenth-century warlord

By Ben O'Donnell

On a squat peninsula along southern Albania's Ionian coast, Porto Palermo Castle, a three-sided fortress of neatly dressed masonry fringed with notches for cannons, commands the sea from nearly 100 feet above azure waves. A picture-postcard spot, the castle evokes its builder, Ali Pasha of Tepelena, the infamous conqueror of huge swaths of today's Albania and Greece. It's a popular stop for thousands of tourists who descend upon the Albanian Riviera in search of an inexpensive seaside lounge chair and an Instagram-worthy cocktail amid the aura of long-ago pirates and princesses. But on a mid-February afternoon, only a few curious travelers are poking around the castle with its seasoned caretaker, Aleksandër.

Ali Pasha ruled the Pashalic of Janina—now Ioannina in northwestern Greece—as governor from 1788 to 1822. He became a living legend across Europe and the Ottoman Empire for his battlefield tenacity, extravagant appetites, and inventive cruelties, a reputation he encouraged. With just a few charges today, Aleksandër has time to air the extended cut of his



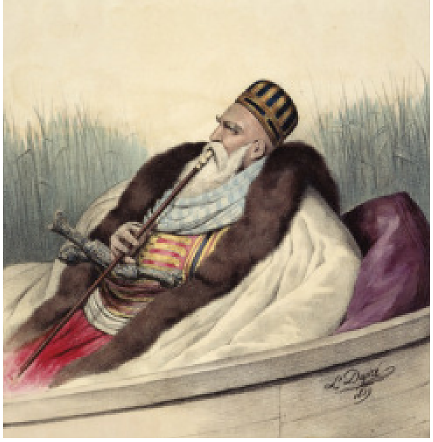

A 3D model of Gjirokastra Citadel, a centuries-old structure renovated by Ali Pasha, was created by archaeologists Luan Përzhita and Ardit Përzhita by assembling thousands of high-definition photos taken with a drone-mounted camera.

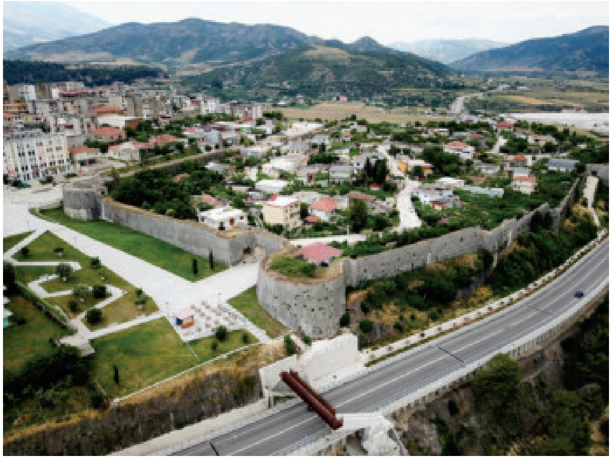
well-honed Ali tales. “In this room, Ali Pasha imprisoned tax evaders,” he says, pausing in a dank corridor pockmarked with holes where shackles were once mounted. “And this next one was the execution room, where he had them beheaded if they refused to pay up.” Just as the holidaymakers start to feel the clammy walls close in, Aleksandër presses on. “This well descended to a secret escape tunnel,” he says. “Ali Pasha executed all the castle’s engineers, so no one could leak the plans.” Or so claims Aleksandër. The visitors finally exhale in a more spacious barrel-vaulted room. Their enthusiastic guide explains that women from Ali’s travel harem took turns performing for the governor and his officers while they feasted here, with the most alluring dancer clinching the honor of overnighting with the Albanian pasha. Ali’s wife Vassiliki always won.

After the tour, under the dome of a hexagonal chamber, Aleksandër reveals a surprise: In 1983, he won the national championship for a style of traditional Albanian folkloric singing known as iso-polyphony. Troubadours of this genre composed odes, ballads, and dirges about Ali Pasha and his exploits both during and after his time. The caretaker sings one here, in the heart of the castle. It’s called “Aman Mike, Aman Nure,” or “Oh My Friend, Oh My Enemy.” One easily imagines the anonymous bard had tried to keep his name in Ali’s friend column.

Porto Palermo Castle was built sometime between 1804 and 1814 and is just one of at least 11 coastal fortresses Ali Pasha established along the Ionian seafront. At the height of his power in the 1810s, the Pashalic of Janina stretched south from central Albania through Greece’s Peloponnese and from the Ionian to the Aegean Sea. Ali was an Ottoman governor who, at least nominally, answered to the Sublime Porte, or central government, in Istanbul. Always one to make up his own rules, however, Ali enacted bespoke legal and tax systems, which were tailored to the 1.5 million Greeks, Albanians, and Turks making up a patchwork of Christians, Muslims, and Jews under his authority. Independent of the Ottoman sultan, he engaged in diplomacy, trade, and even occasional armed conflict with Europe’s great powers, such as France, Britain, and Russia. Across his domain, Ali built simple forts, towering citadels, palaces, roads, bridges, causeways, aqueducts, drainage systems, schools, libraries, Sunni mosques, Sufi houses of worship, and Orthodox churches in a 15-year frenzy of stone and timber. Among his works, Porto Palermo Castle is rare in one respect—it’s intact. Most of Ali’s whirlwind of construction lies in ruins.

But ruins can tell stories, and they’ve inspired archaeologist Luan Përzhita to undertake a project nearly as ambitious as Ali Pasha’s building program. In 2022, Përzhita set out on a mission to document, survey, map, and excavate all of Ali’s surviving sites in Albania. Përzhita, the former director of the Albanian Institute of Archaeology, has been joined in this undertaking by his archaeologist son, Ardit, and they are using the latest tools to reconstruct a realm spanning more than a dozen


A portrait of Ali Pasha shows him in his 60s at the height of his power.



Tepelena Castle, Ali Pasha's northern headquarters, once covered 10 acres. A new neighborhood has sprung up inside the walls of his former palace complex.

sites and structures across the southern half of the country. Under the aegis of Arkeo, a private archaeology firm founded by Ardit, the Përzhitas aim to establish a complete stratigraphy of the sites in Ali Pasha's territory, tracing their transformation from ancient to medieval to pashalic times.

In the mid-1960s, Albania suffocated under Communist dictator Enver Hoxha. At this time, Gjerak Karaiskaj, then a young draftsman at the Institute of Cultural Monuments, was tasked with identifying and designating historic sites to be officially protected. Surveying and measuring everywhere he went, Karaiskaj was, in effect, the first archaeologist to formally study and map most of Ali Pasha's castles in Albania. "Working for a mostly apolitical agency was a privilege," says Karaiskaj, "but due to the extreme isolation of Communist Albania, there was no way to obtain necessary literature or visit similar monuments outside Albania."

Nevertheless, Karaiskaj made some important observations about Ali Pasha the builder. Some of the governor's fortresses were purpose-built to menace cities he coveted. From one fortress, troops could harass Gjirokastra, the wealthy population center of the Drino Valley, two miles away. When Ali took Gjirokastra in 1811, he overhauled its magnificent ship-shaped citadel, which had existed there for centuries. In his reimagining, some of its towers stood nearly 100 feet tall, and some walls were 11 feet thick. Other castles that Ali built appeared to Karaiskaj to be mostly residential.

By the late 1970s, Karaiskaj had amassed enough material to write his magnum opus, *5,000 Years of Fortifications in Albania*. As they did with all books, government censors combed through it before publication—and very nearly shredded it. But when the definitive work saw the light of day, it provided a blueprint for up-and-coming archaeologists, including Luan Përzhita. Like Ali Pasha, the Përzhitas must work quickly. New development, neglect, and the erosive effects of centuries threaten many of the sites. Step one, a full survey and digital documentation of each site, is well underway, and the results are inspiring intriguing new interpretations of Ali Pasha's reign and works.

Twenty miles northeast of Porto Palermo, the landscape of Tepelena is all crags, peaks, and gorges in shades of sienna, pine, and slate, riven by the Vjosa, Drino, and Bënça Rivers. Where they meet, the rivers carve out a bluff, atop which sits the town of Tepelena, birthplace of the future pasha.

Ali's path to power was neither guaranteed nor straightforward. He was born in around 1750 to local chieftain Veli Bey and his wife Esmihan Hanëmi, but Veli died when Ali was young, leaving the family highly vulnerable. From the 1770s through the 1790s, Ali and his men fought both alongside and against Albanian pashas to the north and Greek backcountry clans to the south. Ali secured his base in the city of Ioannina and widened the scope of his imperium slowly, via handshakes and massacres. As he extinguished and lit fires around northwestern Greece and southern Albania, Ali kept a watchful eye on his borders, just beyond which much larger empires were slugging out Europe's new geopolitical order. In 1797, French forces claimed the enclaves of Butrint and Preveza. With that, Napoleon's army was at Ali Pasha's doorstep.

In 1798, Ali saw an opening to attack the French at Butrint and Preveza simultaneously. Perched above the site of ancient Nicopolis, the "Lion of Janina" supervised the battle for Preveza from roughly the same spot where Octavian, the future emperor Augustus, had watched his ships rout Mark Antony at the Battle of Actium 1,828 years earlier. Amid the ruins of Nicopolis, Augustus' "Victory City," Ali Pasha's soldiers delivered the same humiliation to Napoleon. Within a few years, Britain sent a consul directly to Ali Pasha's court, as did France.

As Ali expanded his pashalic, his architects got to work. The pasha was unquestionably a great warrior, but his bold and heterodox constructions are emblematic of a leader who devised a strategy for defending, enlarging, and enriching a new Balkan polity. "He was passionate about building and rebuilding, and that's very attractive for an archaeologist," says Luan Përzhita.

"You have to look at it through a lens of power, because I think that's ultimately what Ali Pasha's trying to telegraph in all his monuments," says historian Emily Neumeier of Temple University. "They not only represent who Ali Pasha is, but who Ali Pasha wants to be. They represent ambition."

This mosque near Porto Palermo Castle, with its frescoed interior, was renovated by one of Ali Pasha's regional lieutenants.

Once western European powers began courting Ali Pasha's favor and sending envoys in the first decades of the 1800s, he gained access to the expertise of French, Italian, German, and British architects. His castles, with their many-sided bastions, inclined ramparts, and geometrical plans, look less like imperial architecture in Istanbul and more like Venetian, Prussian, or French fortresses, specifically those of the Marquis of Vauban, the military engineer to Louis XIV (reigned 1643–1715). Vauban's designs were still the gold standard, and Ali had to have that.

The pasha could be an overbearing boss on the construction site. When a French engineer at Preveza presented him with plans for a fortress to protect the entrance to the Ambracian Gulf in 1807, Ali scrutinized them with dismay. Why weren't the towers cleanly geometric, like a proper castle? And why did the engineer insist on putting this misshapen thing up on a hill instead of right on the shore, where everyone could get a good look at the pasha's firepower? The engineer's design may have been strategically sound, but it failed on style points. "You can imagine him saying, 'Didn't you learn about Vauban? What is this crap?'" says Neumeier. "Ali Pasha clearly had his own idea of what something should look like if you wanted to impress people. He was the ultimate showman."

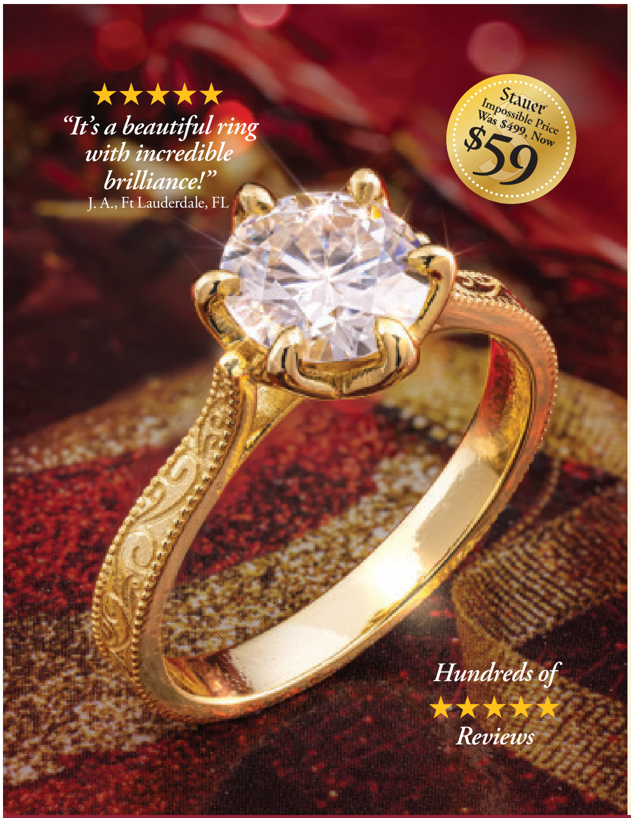
With his chief architect, an Albanian named Petro Themeli, usually at the helm, Ali built up his dominion in a distinctive style. "He always used a combination of Western and Eastern architecture," says Luan Përzhita. Appearance was a calculated consideration, infrastructure was cutting-edge, public needs were satisfied—and no one could mistake who'd paid for it all.

The Përzhitas launched their operation with fresh surveys of Tepelena, beginning where Ali Pasha had. Tepelena Castle, Ali's northern headquarters, was built and renovated between 1800 and 1819. Today, it stands as both a marvel of engineering and a faded reminder of a storied past. The castle's ramparts are eight to 16 feet thick at the base, clad in strictly aligned, smooth-cut stonework, with behemoth polygonal towers. Two centuries ago, those admitted to the castle through its monumental south gatehouse crossed a drawbridge and entered a fortified portal with a soaring barrel-vaulted ceiling. They then proceeded to the courtyard of the palace, where they found an opulent seraglio, gardens, a mosque, and living quarters for the pasha's retinue. The English poet Lord Byron, who met the pasha at the palace in 1809 when he was on his Grand Tour, was dazzled by the flurry of activity he encountered. He describes Albanians, Turks, and "Tartars" in their finery, as well as African slaves, "two hundred steeds ready caparisoned to move in a moment, couriers entering or passing out with dispatches, the kettle drums beating, boys calling the hour from the minaret of the mosque."

Today, the grand gatehouse is frequently graffitied and virtually nothing of the palace survives. Houses and streets occupy the 10 acres inside the citadel walls, a major obstacle to archaeological investigation. On a sign that announces planned "revitalization and improvement" works, the projected date of completion reads 2024, but the 4 is smudged out and a 6 is scrawled over it. Unlike Porto Palermo Castle, Tepelena is not a popular tourist stop.

This 850-foot-long bridge spanning the Vjosa River near Tepelena was built by the Romans and reconstructed by Ali Pasha.

At a site such as Tepelena, archaeologists need advanced tools and technologies to penetrate the centuries, and the first phases of


★★★★★
"It's a beautiful ring with incredible brilliance!"
J. A., Ft Lauderdale, FL
Stauer Impossible Price Was $499, Now $59
Hundreds of ★★★★★ Reviews

We're Bringing You Some Star Power

Nobel Prize Winner Brings Us Perfection From Deep Space

The story begins in 1893 when Nobel Prize-winning scientist Henri Moissan discovered an extraordinary gem in a meteor sample. Rare in nature, this **cosmic treasure that has been perfected by scientists** right here on Earth, offering brilliance that outshines diamonds.

According to the Gemological Institute of America, moissanite **surpasses all other gems in brilliance, fire, and luster**. Its unique **"double refraction"** means that light enters the stone and exits not once but twice—something **no diamond can achieve**

For a limited time, own this celestial beauty at an unheard-of price! The **Star Power Moissanite Ring** features a 1-1/2 carat moissanite in yellow gold-finished .925 sterling silver—normally $499, **now just $59! Only ~~1,000~~ 563 available** for this offer. So don't wait—once this deal is gone, it's gone!

Jewelry Specifications:
- Moissanite in gold-finished .925 sterling silver settings
- Ring: Available in whole sizes 5-10

Star Power Moissanite Ring

1-½ carat moissanite solitaire ~~$499~~ $59* + S&P ***Save $440***

**Special price only for customers using the offer code.*

1-800-333-2045

Your Insider Offer Code: SPM133-01

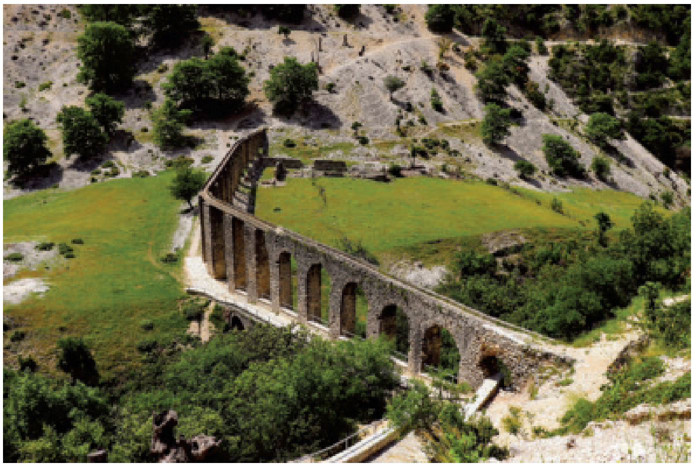
14091 Southcross Drive W.
Dept. SPM133-01
Burnsville, MN 55337
www.stauer.com

Stauer® | AFFORD THE EXTRAORDINARY®

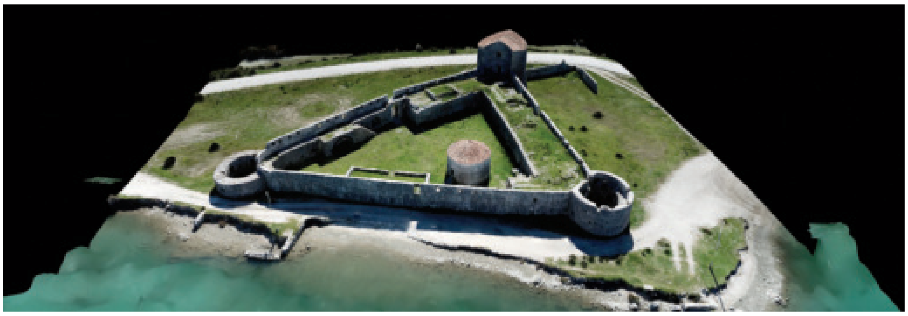
research have turned up some surprises. Using a drone to take thousands of photos and create lidar maps, the Përzhitas have started digitally reconstructing Tepelena Castle. These photos are now being assembled to create extremely high-definition 3D models. With these models, Luan Përzhita has identified the outline of a much smaller, older castle, now covered by both the citadel's ruins and homeowners' gardens. The hodgepodge of brick-and-stone masonry of one wall remnant suggests that the structure was probably built in the late thirteenth or early fourteenth century, but perhaps as early as the twelfth. Below the medieval castle, Përzhita speculates, lies a Roman castrum, or fort. "Maybe," he says.

It's a strong maybe, though. A nearby bridge spanning 850 feet above the Vjosa River has Roman foundations. The bridge, Përzhita thinks, was part of a north-south branch of one of the largest Roman roads, the Via Egnatia, which, in this part of the empire, ran from the city of Aulon—now Vlora, on the Albanian Adriatic coast—to Nicopolis. Ali Pasha revamped this bridge and others on the Vjosa as part of his extensive road network, which he made a point of traversing in an Italian-made horse-drawn carriage to emphasize the smoothness of the highways he built through the region's jagged topography.

Perhaps the most ingenious of Ali Pasha's civil engineering feats were his aqueducts. He constructed dual-purpose aqueduct-bridges in the region, and the one that served Tepelena remains in relatively good condition, an evocative centerpiece for the cloud-shrouded Bënça



Ali Pasha introduced dual-purpose aqueduct-bridges to his realm, such as this one, which supplied water to Tepelena.



A 3D model of the Triangular Castle near Butrint allows archaeologists to identify phases of construction earlier than Ali Pasha's refurbishments.

River Gorge. Përzhita believes there was a second, secret water source from a hidden well in case besiegers poisoned the primary one. Road construction in 2021 unearthed large clay pipes from Ali's hydraulic system, a discovery that helped Përzhita trace the flow of water from its source to the valley and up to the city.

An orderly bookshelf dominates the Arkeo office in eastern Tirana, and more than a few volumes were authored or edited by Luan Përzhita over his 45-year career. But his and Ardit's latest work is displayed on a computer screen. With a few clicks, Ardit hovers over the Triangular Castle across the Vivari Channel from Butrint. When Ali Pasha conquered the city, its modest fort was centuries old and badly damaged and had been made redundant by another fortification. Yet for some reason, Ali chose to renovate it. Ardit zooms in on the 3D model on the screen to reveal how a three-story roofed tower was grafted onto older walls. The tower boasts a sizable fireplace, and, in the bailey, a one-room cylindrical building closely matches the tower's style. It, too, is a later addition that Luan Përzhita thinks served as a mosque. It seems that Ali Pasha refurbished the castle as a residence.

As their work progresses, the Përzhitas will use a drone for thermal imaging, allowing them to see buried foundations. Stone typically absorbs and stores more heat than soil, a difference the sensor can detect. Government funding for their research is hard to come by. "Albania has other priorities," says Luan. "There's a saying here: 'When you are busy painting your house, you cannot read a book.'"

At least one Ali Pasha site may get priority for research funds, though. In Gjirokastra, 16 miles south of Tepelena, Ali's storybook citadel crowns a promontory 500 feet above a warren of cobblestone streets and a historic bazaar district. In 2024, 263,000 visitors climbed to the citadel, the second record-breaking year in a row. It's a gargantuan, unwieldy structure, and signs of strain are tough to spot. The Përzhitas can position their drone close to a wall and pinpoint where medieval construction transitions to early Ottoman building and then to Ali Pasha's renovations. They will also be able to see how the citadel's walls change over the years ahead, monitoring for erosion, fissures, or other emerging weaknesses.

By the 1810s, amid the rapidly shifting alliances and chaos of the Napoleonic Wars, Ali Pasha was plotting his endgame: leave the Ottoman Empire and create an independent state. Conveniently, Lord Byron ignited Albania mania and a fashion for all things Ali Pasha in western Europe around this time, with the fictionalization of his travels in the epic poem *Childe Harold's Pilgrimage*. Other young aristocrats made their own pilgrimages, some calling themselves antiquarians and excavators. The gold rush era of mercenary archaeology had come to Ottoman Greece, and Ali Pasha wanted a piece of the action.

Sculptures and columns translated into hard cash, of course, but to achieve his greatest ambition, Ali needed broad buy-in for the idea of a shared identity, or at least political unity, among his motley subjects. He had already proclaimed himself the spiritual heir and direct descendant of King Pyrrhus of Epirus, who ruled the region for most of the period between 307 and 272 B.C., and Ali imagined that digging up the area's past could burnish his bona fides.

"His excavators have discovered a very fine bust of [the Roman emperor] Trajan," an English visitor to the Preveza seraglio noted; another spied a marble head of Alexander the Great. A Danish archaeologist, Peter Oluf Brøndsted, paid a visit to Ali Pasha in 1812 and found himself obliged to survey Nicopolis with his new friend. Brøndsted recounted that a team of diggers appeared at Ali's beckoning—the day's haul would be three ancient marble slabs and two Roman medallions. "The [pasha] gave me the last, and pocketed the other himself, laughing at this augmentation of his treasury," Brøndsted wrote. Ali's son Veli Pasha apparently took up archaeology with genuine gusto, directing excavations at the Bronze Age sites of Mycenae and Argos in Greece's Peloponnese.

Ali's continuing incursions, extortions, and executions of rivals within the Ottoman Empire, however, made him a headache for Sultan Mahmud II (reigned 1808–1839). His blatantly roguish behavior and 80,000 soldiers made him a threat. In 1820, the Sublime Porte found—or created—a premise to declare Ali Pasha an outlaw, alleging that he had tried to have a politician in Istanbul assassinated. For

Tepelena Castle, like most of Ali Pasha's works, is in ruins. Archaeologist Luan Përzhita thinks this area may have served as kitchen facilities.

two years, Ali ruled in open rebellion, his castles finally seeing action against the Ottoman army after three decades of waiting. But, by 1822, Ali, now in his 70s, had few friends and many enemies. In a monastery near the city of Ioannina, he is said to have made one last stand in a dramatic shootout—or, perhaps, he was betrayed and stabbed.

The sultan's agents quickly destroyed as much of Ali Pasha's built legacy as they could. His seraglios were looted and burned, and inscriptions proclaiming his power and patronage were torn down. "This was a very clear *damnatio memoriae*," says Neumeier. Most of Ali Pasha's buildings were in ruins within a century of his death.

The Ottomans found that revolution was a bell they could not unring, says historian Irakli Koçollari of the Academy of Sciences of Albania. Following the Greek War of Independence, which lasted from 1821 to 1829, former members of Ali Pasha's court became prominent intellectuals, bankers, and even a prime minister in the new Greek state. Schools founded in Ioannina with Ali's support educated many of the leading figures in the Albanian National Awakening of the late nineteenth century. The ideas they imbibed and then spread about common identity, religious coexistence, and the importance of literacy set the table for Albania's foundation.

Luan Përzhita is a scientist, and he speaks modestly. But he and his son have taken on an enormous endeavor to decipher and safeguard a constellation of sites belonging to an era and a figure that defy easy narratives. "I think the Ali Pasha project will contribute to the understanding of Albanian tradition and cultural heritage," he says, providing a new text for educating the next generation about the history of this place. "A place that they are a part of," says his son Ardit. Ali Pasha was a pooh-bah and a pain, a yarn spinner who bent reality to his vision through his sprawling works. He's inescapable, even two centuries later, in the stones and songs of the Albania he shaped. ■

Ben O'Donnell *is a writer living in Durrësi, Albania. To see more images, go to archaeology.org/alipasha.*

Photo Credits

COVER—© Tolga İldun; 1—© Tolga İldun; 3—(Clockwise, from top left) SMB - Ägyptisches Museum und Papyrussammlung/Photo: Sandra Steiß; English Heritage; Emil Aladjem, Israel Antiquities Authority; © Zahi Hawass; © University of Aberdeen; Zack Frank/Adobe Stock; 6—Sterling Stevens, Courtesy Metro Nashville Parks and Recreation; 9—© The Trustees of the British Museum; SMB - Ägyptisches Museum und Papyrussammlung/Photo: Sandra Steiß; 10—The Egypt Centre, Swansea University; © Ministère de la Culture/Médiathèque du Patrimoine, Dist. RMN-Grand Palais/Art Resource, NY; 11—Emil Aladjem, Israel Antiquities Authority (2); Courtesy Médard Thiry; 12—Zack Frank/Adobe Stock; Kent/Adobe Stock; 14—(Clockwise, from top left) Photo by M. Admiraal (2); Chris/Adobe Stock; Courtesy Juliette Waterman; © University of Aberdeen; 15—English Heritage (2); 16—© Zahi Hawass (5); 18—Ben O'Donnell; Courtesy James Davidson; 20—(Clockwise, from top left) City of St. Augustine Archaeology Program (via Facebook); Manx National Heritage; Simona Murrone/Colosseum Archaeological Park; Wikimedia Commons; Pedro Guillermo Ramón Celis; 21—(Clockwise, from top left) Bertilisson *et al., BDJ Open (2025)*; Jambon *et al., Journal of Archaeological Science: Reports* (2025); Korean Cultural Heritage Administration; Sen You *et al., Archaeological and Anthropological Sciences* (2025); Evgeny/Adobe Stock; 22—American Numismatic Society 1967.144.4; 23—© Tolga İldun; 24–25—© Tolga İldun; 26—Metropolitan Museum of Art (2); 27—Istanbul Archaeology Museums (3); 28–29—(Clockwise, from top left) Ichijodani Asakura Family Site Museum (2); Tohan Aerial Photographic Service/AFLO; 30—Wikimedia Commons; 31—Ichijodani Asakura Family Site Museum (4); 32—Yasuyuki Oka/AFLO; Wikimedia Commons; 33—(Clockwise, from top left) Ichijodani Asakura Family Site Museum (4); amana images inc./Alamy; 34—Ichijodani Asakura Family Site Museum (7); 35—(Clockwise, from top left) Ichijodani Asakura Family Site Museum; amana images inc./Alamy; Wikimedia Commons; 36–37—Courtesy BACA/Moesgaard Museum; 38—Courtesy Moesgaard Museum; Courtesy NCCAL/Moesgaard Museum; 39—Courtesy H. David-Cuny; Erich Lessing/Art Resource, NY; Courtesy NCCAL/Moesgaard Museum; 40—Courtesy Moesgaard Museum; Alamy; bpk Bildagentur/Vorderasiatisches Museum/Staatliche Museen Berlin, Germany/Olaf M.Teßmer/Art Resource, NY; Courtesy NCCAL/Moesgaard Museum; Photo by Jozef Ďuriš/Courtesy Kuwaiti-Slovak Archaeological Mission (3); 41—Courtesy H. David-Cuny (2); 42—© BnF, Dist. RMN-Grand Palais/Art Resource, NY (6); 43—HIP/Art Resource, NY; 44—Courtesy Historic England (photographed using an AHRC-funded Keyence VHX7000 3-D digital microscope at x 30 magnification; AHRC Award AH/V011758/1); Scala/Ministero per i Beni e le Attività culturali/Art Resource, NY; Courtesy Fingal County Council; 45—Allen Creative/Steve Allen/Alamy; Courtesy Jacob Holland-Lulewicz; Minneapolis Institute of Art/The Minnich Collection, The Ethel Morrison Van Derlip Fund, 1966; 46—(Clockwise, from top left) Courtesy Dušan Borić; Courtesy Dragana Filipović; Adobe Stock; Courtesy Susanne Renner; 47—Courtesy Kimberley Connor; Courtesy Hyde Park Barracks Collection, Museums of History NSW; Photograph by Jamie North, courtesy Hyde Park Barracks Collection, Museums of History NSW (3); 48–49—Jeffrey Quilter; 50—Jeffrey Quilter (2); 51—Jeffrey Quilter (2); 53—Andronira Burda; 54—Luan and Ardit Përzhita/Arkeo; From the British Library Archive/Bridgeman Images; 55—Luan and Ardit Përzhita/Arkeo; 56—Ben O'Donnell (2); 57—Ben O'Donnell; 58—Luan and Ardit Përzhita/Arkeo; 59—Ben O'Donnell; 61—Courtesy Oak Taylor-Smith; 62—(Clockwise, from top left) Courtesy Dawn Cox (2); Courtesy Kotaro Yamafune; 64—© The Trustees of the British Museum

ARCHAEO-CULINARY

Piedmont + Valle d’Aosta

October 13–20, 2025

The Archaeological Highlights:

- The most amazing Roman sculpture museum you’ve never heard of
- The best Egyptian Museum this side of Cairo
- A silver treasure Roman emperors would covet
- Megalithic stones carved by the first Europeans
- The northernmost Roman city in Italy
- Arches galore
- Alps!

The Culinary Delights:

- The most flavorful cheeses (don’t tell the French)
- The best chocolate (don’t tell the Swiss)
- White Alba truffles (in season!)
- Italy’s top red wines (sorry, Tuscany!)

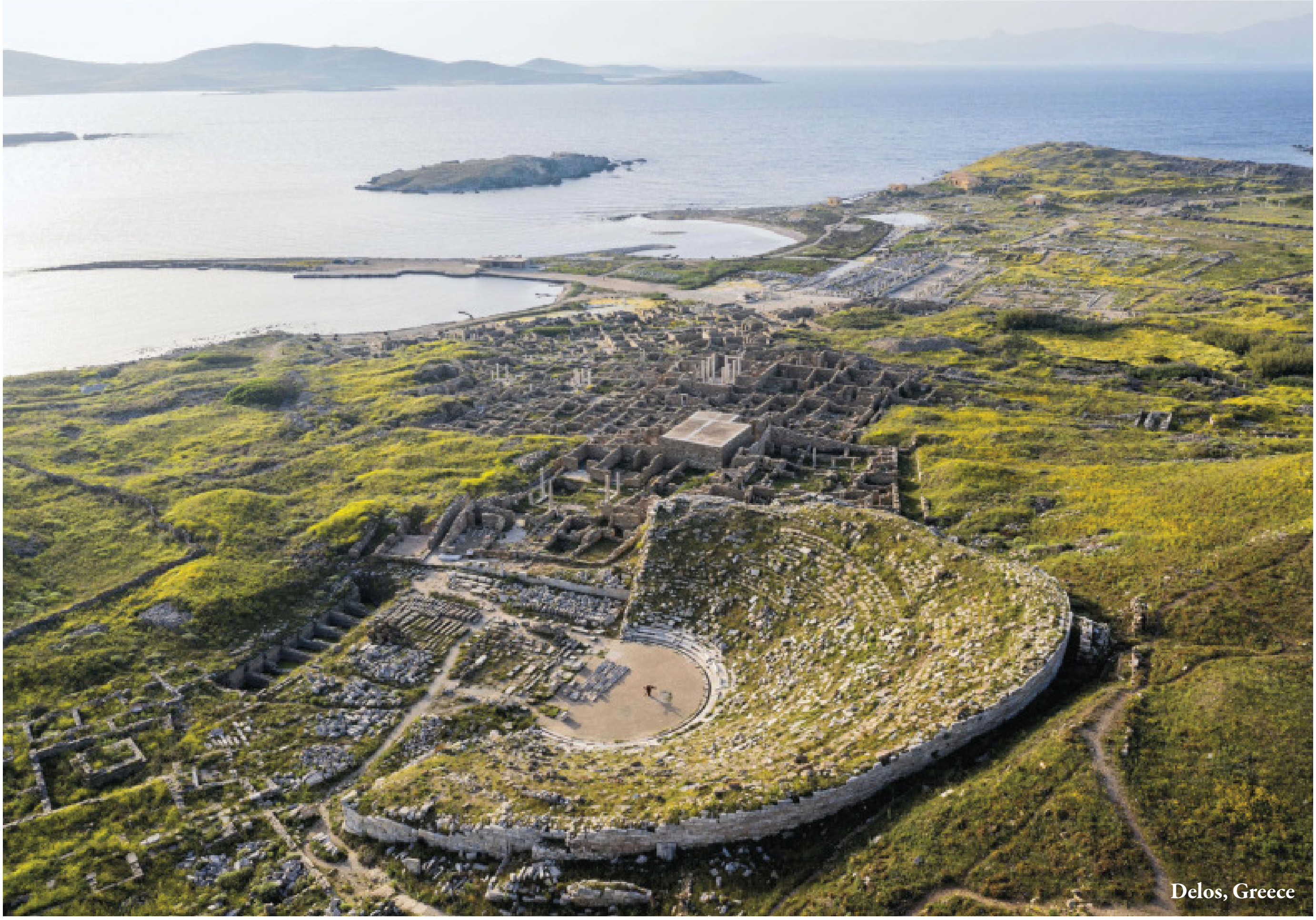
Visit our site for full details and to learn about our unique small-group luxury tours.

“I could not recommend Elifant more strongly. The two leaders have an encyclopedic knowledge of ... archaeology and Italian cuisine. ... the best tour experience I have ever had.” — Alan R., Los Angeles

ELIFANT
ARCHAEO–CULINARY TOURS

elifanttours.com

ARCHAEOLOGICAL INSTITUTE *of* AMERICA


Delos, Greece

ADVOCATE

The cultural heritage of world communities and their ancestral landscapes, historic monuments, museums, and physical artifacts are increasingly vulnerable as a result of global climate change. At the AIA's Annual Meeting in January 2025, several sessions were dedicated to the work of archaeologists whose field projects are actively addressing these challenges. The colloquium "Precarious Heritage: Climate Change and (Un)natural Disasters," organized by Betsey Robinson and Ömür Harmanşah and sponsored by the AIA Cultural Heritage Committee, offered perspectives on the vulnerability of archaeological sites and artifacts in the Mediterranean world. Two papers addressed the danger of sea level rise on the island of Delos in the Aegean Sea; flooding threatens the future of this remarkable ancient sanctuary and commercial port. Two papers on the Roman fort at Vindolanda in northern England highlighted the significance of environmental monitoring for preserving archaeological sites and buried deposits. A final paper discussed the countryside around the city of Ankara in central Turkey and advocated for a comparative approach to the study of urban and rural landscapes in evaluating how the new era of industrialization and urbanization are impacting the way we tell archaeological stories.

Join

The AIA is a community of people passionate about archaeology, just like you!
Join our archaeological community and become an AIA society member at archaeological.org/join.

FROM THE FIELD

EDUCATE

Darren Tomlin

Diane Orellano, Areli Juarez, and Esmeralda Garcia

In summer 2023 and 2024, AIA trustee Dawn Cox led an archaeology program for underrepresented youth with support from the AIA Los Angeles Society and the American School of Classical Studies at Athens. This pilot program took students of color to the field for an immersive experience focused on the archaeology of ancient Greece. Small groups of students visited iconic archaeological sites such as the Athenian Agora and the Acropolis, as well as the cities of Corinth, Mycenae, Isthmia, and Nemea, among others. During these visits, they observed excavations, met archaeologists, and attended presentations by experts in the field. The program's organizers hope to introduce a peer-to-peer mentorship system, allowing returning students to guide newcomers. They also aim to expand opportunities to include, among other activities, participation in an archaeological dig near Corinth.

Carolyn Kennedy

EXCAVATE

The Ellen and Charles Steinmetz Endowment for Archaeology funds archaeological work that uses innovative methods and technology. This year's grant recipient, Carolyn Kennedy, is currently making waves in the world of underwater archaeology. As coprincipal investigator of the Philadelphia Gunboat Research Initiative, Kennedy, along with her team, is exploring the site of *Philadelphia*, a gunboat lost in Lake Champlain in 1776 by Benedict Arnold's forces. The incomplete remnants of *Philadelphia* are housed in the Smithsonian's National Museum of American History, but several of the ship's rigging components, including the topmast, have yet to be recovered. The team's use of remote sensing and photogrammetric 3D modeling has revolutionized the search for these missing pieces. Building on work initiated by the Lake Champlain Maritime Museum, Kennedy and her team hope to locate these items and reunite them with the gunboat for public display.

Support

The AIA's commitment to excavation, education, and advocacy is made possible by generous donors like you. Support our mission by making a gift online at archaeological.org/donate.

TRAVEL

— AIATours.org —

Archaeological Institute of America Tours

Archaeology-focused tours, for all levels of interest

The finest learning adventures. Small groups. Expert-led tours.

Travel with a scholar: archaeologist, paleoanthropologist, art or architectural historian, and more. Throughout your tour, enjoy fascinating lectures, impromptu discussions, and often special access.

Dún Aonghasa, Aran Islands, Ireland

© Fáilte Ireland

Ireland's Wild Atlantic Way & Northern Ireland
September 1-14, 2025
(14 days | 12 guests)
with geoarchaeologist
Stephen Mandal

FEATURED 2025 LAND TOURS

Northern Italy:
Archaeology, Culture & Cuisine
September 10-21, 2025 (12 days | 16 guests)
with archaeologist Patrick Hunt

Croatia & Slovenia:
Ancient Treasures along the Dalmatian Coast
September 20-30, 2025 (11 days | 15 guests)
with archaeologist Ivančica (Vanča) Schrunk

France: The Reach of the Romans
September 21-30, 2025 (10 days | 12 guests)
with archaeologist Patrick Hunt

Life, Luxury & Leisure in Ancient Rome
October 5-16, 2025 (12 days | 16 guests)
with archaeologist Crispin (Cris) Corrado

Itineraries, lecturers, number of guests, and tour dates are subject to change.

Peru: Ancient Cultures of the Coast & Andes
October 6-21, 2025 (16 days | 15 guests)
with cultural anthropologist/archaeologist
Gabriela Cervantes-Quequezana

Japan: Ancient & Medieval Treasures & Temples
October 17-29, 2025 (13 days | 16 guests)
with archaeologist Ilona Bausch

Southern Peru:
Nazca Lines, Colca Canyon & Lake Titicaca
October 24 - November 7, 2025 (15 days | 15 guests)
with cultural anthropologist/archaeologist
Gabriela Cervantes-Quequezana

Go online to view all of our land tours and small-ship cruises, including those in the planning stages and with a waiting list.

Archaeological Institute of America Tours
call: 800-748-6262 • *website*: aiatours.org • *email*: aia@studytours.org

ARTIFACT

BY JARRETT A. LOBELL

For ancient craftspeople, who had to fashion everything by hand, specialized tools such as saws and awls must have been among their most prized possessions. For a people as artistically accomplished as the Etruscans, who flourished in central Italy from the eighth to third century B.C., these implements would have been invaluable. Very few examples of Etruscan tools survive, their wooden handles having long ago rotted and their iron blades having been melted down for other uses. One place to look for evidence of the kinds of tools the Etruscans used is on some of the tiniest, most finely detailed objects they created.

The carving on this gemstone depicts the mythological carpenter Taitle, whose name is inscribed at the bottom. Taitle is the Etruscan equivalent of Daedalus, the Greek inventor who fashioned wings for himself and his son Icarus, whose Etruscan counterpart is named Vikare. Together, father and son used the wings to escape the island of Crete, where the pair were imprisoned lest they expose the secrets of the labyrinth that Daedalus had designed.

"Taitle is an important figure for craftspeople, especially for the Etruscans," says archaeologist Holly Piper of the Nevada State Museum, Las Vegas. Artisans frequently depicted Taitle wearing or constructing wings, as well as using woodworking tools such as the frame saw—a flexible blade held by tension on a rectangular frame—which he holds in his right hand. "Etruscan artistic representations of artisans' tools are significant because they help us understand what something like a frame saw actually looked like, which can flesh out our understanding of the development and spread of tools on the Italian peninsula," Piper says. "Often the invention of a certain type of tool is credited to the Romans because a Roman author wrote about it, but many of these tools actually have much earlier origins, and the Roman tool is just the final stage."

WHAT IS IT
Carved gemstone

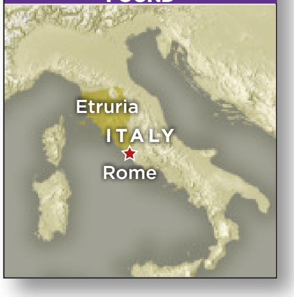
MATERIAL
Carnelian

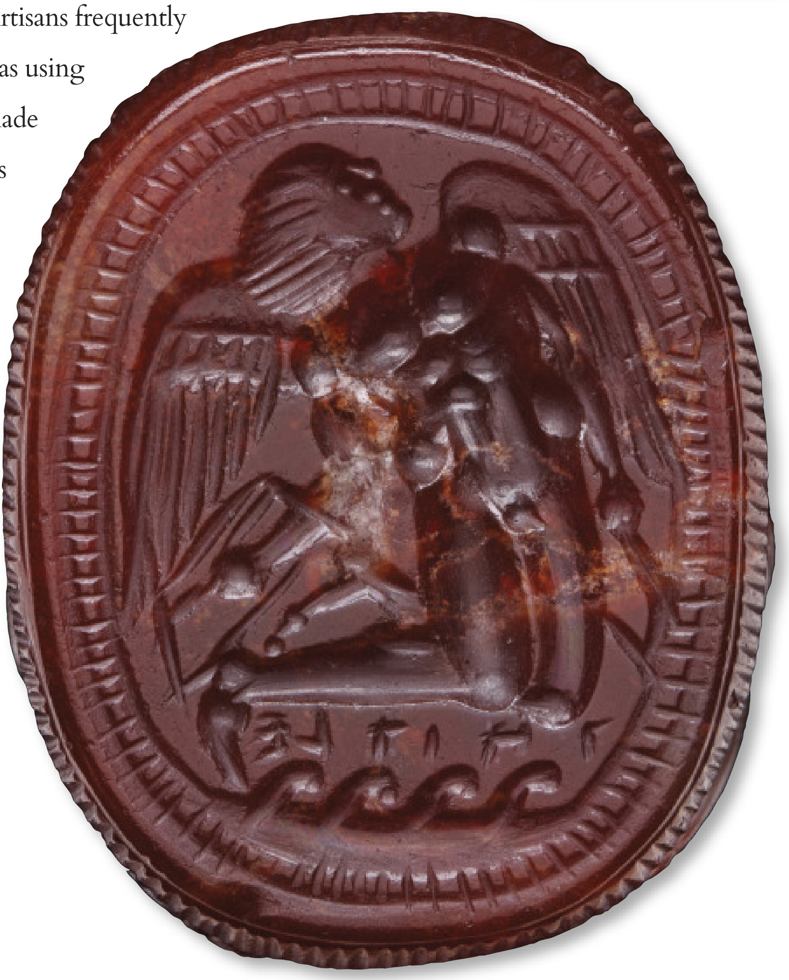
CULTURE
Etruscan

DATE
450–400 B.C.

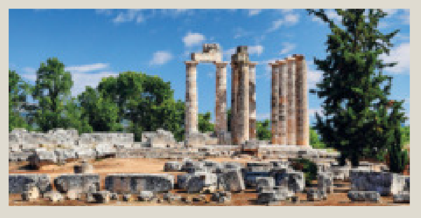
DIMENSIONS
0.66 inches long,
0.55 inches wide

FOUND

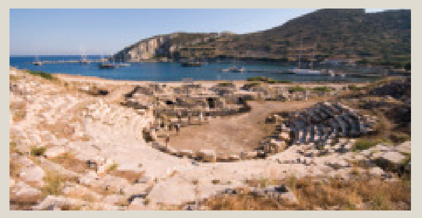




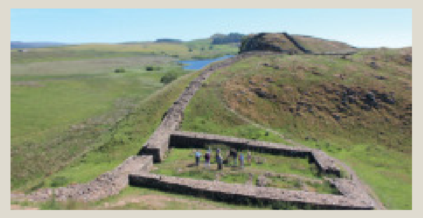
EXPERT-LED ARCHAEOLOGICAL & CULTURAL TOURS FOR SMALL GROUPS



EXPLORING THE PELOPONNESE

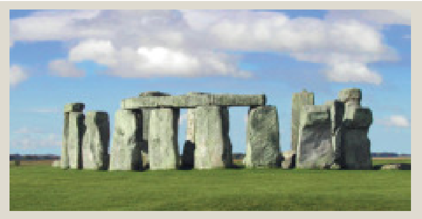


CRUISING THE CARIAN COAST

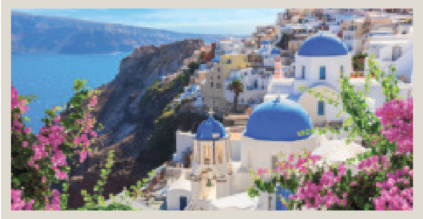


EXPLORING HADRIAN'S WALL

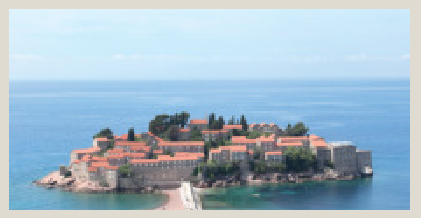
A GASTRONOMIC GULET CRUISE IN TURKEY



EXPLORING WESSEX



CRUISING THE CYCLADES



CRUISING THE COAST OF MONTENEGRO

A GASTRONOMIC TOUR OF SICILY

CRUISING THE DALMATIAN COAST: FROM ŠIBENIK TO ZADAR

Visit: petersommer.com

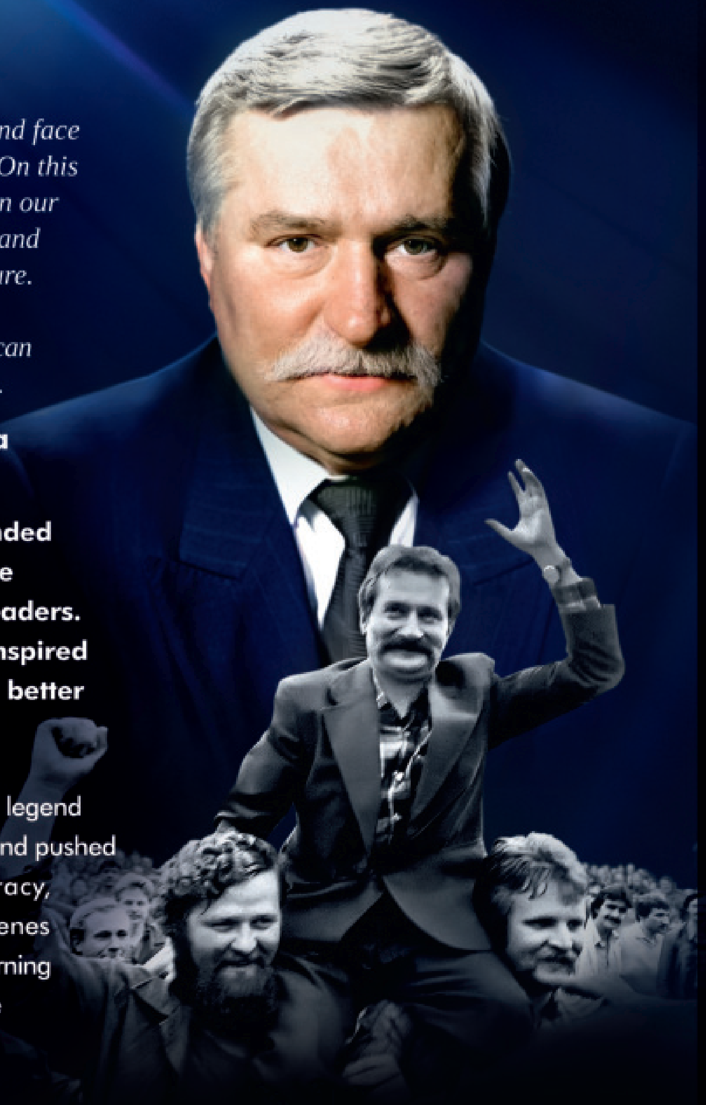
Email: info@petersommer.com

Call: 01600 888 220

7 TIMES
UK TOUR OPERATOR
OF THE YEAR

5100
The Specialist
Travel Association

ABTA No.Y6151



THE GREATEST CHALLENGES OF OUR TIME

THROUGH THE EYES OF THE GLOBAL HERO WHO CHANGED THE COURSE OF HISTORY

HISTORIC EVENT

AN EVENING WITH PRESIDENT

LECH WALESA

NOBEL PEACE PRIZE WINNER AND FORMER PRESIDENT OF POLAND

USA & CANADA GRAND LECTURE TOUR | AUGUST 31 – OCTOBER 30, 2025

> “*We, the people,* live in challenging times and face a turning point in history. On this lecture tour, I will reflect on our past, confront our present and offer ideas for a better future. Join me for this historic conversation. Together, we can create the change we need.*
>
> — **Lech Walesa**

Meet the man who defended freedom and became one of the world's greatest leaders. His courage and vision inspired millions to believe that a better world is possible.

Now, Lech Walesa, the living legend who defeated communism and pushed the world toward democracy, will take you behind the scenes of one of history's greatest turning points – and into the future we must build together.

Aug 31	Los Angeles, CA
Sep 2	Phoenix, AZ
Sep 4	San Diego, CA
Sep 6	Oakland, CA
Sep 8	Seattle, WA
Sep 12	Denver, CO
Sep 14	Houston, TX
Sep 18	Austin, TX
Sep 20	Dallas, TX
Sep 22	Atlanta, GA
Sep 24	Columbus, OH
Sep 26	Pittsburgh, PA
Sep 27	Baltimore, MD
Sep 28	Cleveland, OH
Sep 30	Minneapolis, MN
Oct 2	St. Louis, MO
Oct 4	Chicago, IL
Oct 5	Milwaukee, WI
Oct 9	Miami, FL
Oct 11	Orlando, FL
Oct 13	Boston, MA
Oct 15	Charlotte, NC
Oct 17	Philadelphia, PA
Oct 18	New York, NY
Oct 24	Montreal, QC
Oct 25	Toronto, ON
Oct 26	Detroit, MI
Oct 30	Vancouver, BC

HISTORY EXPLORER

PEACE AND LEADERSHIP | THE FIGHT FOR FREEDOM AND HUMAN RIGHTS | CHALLENGES TO DEMOCRACY
THE SOLIDARITY MOVEMENT | THE FALL OF COMMUNISM | RUSSIA AND UKRAINE | OUR VALUES
NEW SOLUTIONS FOR A NEW WORLD

REGISTER NOW for lessons from the past and inspiration for the future

www.HistoryExplorer.com contact@historyexplorer.com 917-722-5050